



Pre-Event Message Development for Terrorist Incidents Involving Radioactive Materials

Submitted by the

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Pre-Event Message Development Project: Terrorist Events Involving Radioactive Materials

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Introduction

As noted terrorism research Ian Lesser (1999) has noted, “the difficulty of eliminating the terrorist risk – regardless of national strategy – and the growing lethality of international terrorism point to a need for measures and capabilities aimed at limiting the consequences of terrorist incidents.” This necessitates the creation of robust, well-integrated response mechanisms that can effectively reduce morbidity, mortality and other impacts should an attack occur. A critical dimension of this process involves having a coordinated crisis/risk communication strategy to enlist the public as a partner and to maintain public confidence and trust (Becker, 2001).

The very real threat of weapons of mass destruction (WMD) terrorism requires the design, development, and dissemination of technically accurate and timely information regarding how people may best protect themselves, their families, and their communities. Recognizing this pressing need, the Centers for Disease Control and Prevention (CDC), in concert with the Association of Schools of Public Health (ASPH), launched the “Pre-Event Message Development Project.” Through a competitive funding process, four leading academic institutions were chosen to conduct communications research and to provide information needed by CDC to prepare improved materials for a range of situations involving weapons of mass destruction threats.

The four primary schools of public health chosen to lead the work are: The University of Alabama at Birmingham, St Louis University, University of California at Los Angeles, and the University of Oklahoma (along with partnering schools). The aim is to utilize audience testing to develop and evaluate pre-event message content appropriate to a variety of formats. The areas of primary focus included chemical, biological, radiological and nuclear event content area with the content and message structure format varied to meet the tailored needs of a variety of audiences, including but not limited to, the public health workforce, the general population, first responders, hospitals, state and local authorities, as well as population segments of low literacy, that are non-English speaking, and/or minorities.

Each of the four academic institutions serving in primary roles brings special strengths and expertise to the process. By using formative research with exploratory focus groups, followed by evaluative audience testing, critical information related to what audiences want to know has been developed in parallel with the information that the research team, CDC and the ASPH Bioterrorism Council recognizes needs to be known.

Since its inception the Pre-Event Message project has been carried out as a collaborative endeavor, with input and effort from the four lead universities, as well as from colleagues at the CDC. This consensus-based approach has taken the shape of mutually agreed upon goals, methods and measures, as well as shared effort. From the first meetings, collaborators agreed to the benefits of a common approach. One benefit was that common tasks could be divided up among the partners. Most significantly, opportunities for building scale into a project using standardized focus group methodology could produce greater confidence in the validity and

generalizability of the findings: results from nearly 60 focus groups are more compelling than results from ten.

The accomplishment of specific benchmarks in the workplan, such as the development of the focus group discussion guide, take place more or less as follows. The conceptual framework for the focus groups was laid out in broad strokes at the first two meetings of collaborators. SLU took the lead on drafting the conceptual framework, and preparing the first draft set of questions based on the framework. The partners reviewed the draft, and shared their comments in a conference call. The guide was revised and again submitted the draft for review. Final revisions were made after a final round of reviews, and collaborators approved the result in a conference call. At that point, we could all move forward with preparation of protocols for ethical review, and commence the research itself.

Such an approach can be time-consuming, especially when participants are located in five or more locations spread across four time zones. The *modus operandi*, consequently, has called for weekly conference calls, and periodic (quarterly) in-person meetings. The meetings are necessary to reach agreement on decisions of consequence, such as preparation of workplans; the calls keep work moving forward. Typically one school will take the lead on a particular task (e.g., Oklahoma took the lead on mental health issues), but the final version is the one agreed to by all. The pace of the consensus building process has become faster with time, as basic elements have fallen into place. For example, much of the project relies on the conceptual framework. Once the difficult work of achieving consensus on the framework was accomplished, later elements were easier to complete. All key deliverables in the project have been benefited from this approach, including the coding guide for the analysis; the preliminary presentations of results in September 2003; and the application for renewal of the project.

The focus of the present report is on the communication aspects of terrorist events involving radioactive materials. The analysis and write-up was prepared by the Pre-Event Message Team at the University of Alabama at Birmingham (UAB), which has primary responsibility for the nuclear/radiological area of the overall CDC/ASPH Pre-Event Project. However, consistent with the collaborative nature of the Pre-Event process, the 16 focus groups that the report is derived from were carried out by all four universities in the Pre-Event Project: St Louis University, The University of California at Los Angeles, the University of Oklahoma (with subcontractor University of North Texas), and University of Alabama at Birmingham (with subcontractors Tulane and University of South Florida). As is the case with all products of the Pre-Event Project, then, this effort should be seen as a collaborative one amongst the four schools.

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Methodology

I. METHODOLOGY

Design

The two specific aims of the project activities were 1) to obtain insight into the current attitudes, potential responses, information needs, and information sources of the general public, first responders, public health professionals, and hospital ED personnel to unconventional terrorist threats and 2) to pre-test agent-specific informational materials developed by the CDC and NIOSH. To achieve these two aims, qualitative research methods were employed and focus group interviews were conducted with two primary audiences: professionals (including public health workers, firefighters, EMTs, police, ED personnel) and the general public. Focus groups have become an important means of collecting data to address message and campaign creation, as they can be done relatively quickly yet still capture opinions and sentiments of selected groups or segments within a population.

Data Collection

The data collection tool was comprised of a set of open-ended questions (focus group guide) designed to elicit information pertinent to designated domains of interest relevant to pre-event messaging. Focus group guides were also customized to include agent specific scenarios and informational materials. The development of the guides was a collaborative effort between the UCLA, The University of Alabama at Birmingham, University of Oklahoma, and St. Louis University.

The basic structure of the focus group guide for the general public included the following sections:

1. Introduction & ice breaker
2. Current knowledge and attitudes about the national color alert system and different types of terrorist threats
3. Three part scenario rollout based on specific type of agent - radiation, chemical (VX), or biological (plague or botulism)
4. Confidence in the government's ability to respond to a terrorist event of the type described
5. Part four of the scenario in which participants are asked to review agent-specific educational materials / information

The focus group guide for the public health professionals was similar in structure, but did not include the section on the national color alert system, knowledge about different types of terrorist threats, or confidence in the government's ability to respond to a terrorist threat or event.

Fifty-five focus groups in the public and professional sectors were conducted by the four partner universities. The focus groups were conducted in places convenient for the participants and designated by the subject recruiters. Focus groups were audio taped and responses to questions were transcribed. In addition to public and professional groups within the U.S. mainstream population, the partner universities conducted groups within minority groups to include the American Indian, Hispanic, African American, and Asian populations, as well as groups conducted with person to which English is a second language. Some Hispanic groups were conducted in Spanish.

Measures

Table 1 below lists the constructs of interest for the two different audiences with which the focus groups were conducted.

Table 1: Constructs studied in each population	
Public health professionals and first responders	General public audience segments
<p>Formative research questions:</p> <ul style="list-style-type: none"> • Professional and public information needs • Professional and public information seeking behavior • Preferred channels for terrorism information dissemination <p>Materials pre-testing questions:</p> <ul style="list-style-type: none"> • Comprehension • Emotional response • Believability • Intention to use materials • Recommendations for improvement 	<p>Formative research questions:</p> <ul style="list-style-type: none"> • Pre-event knowledge, attitudes and response • General knowledge about basic health science as it relates to different threats • Confidence in the government and public health response to a potential attack • Terrorism information needs • Terrorism information seeking behavior <p>Materials pre-testing questions:</p> <ul style="list-style-type: none"> • Comprehension • Emotional response • Believability • Self-efficacy and response-efficacy intention to follow advice • Recommendations for improvement

ANALYSIS

Data Coding and Analysis

Focus group transcripts for both public and professional groups were entered into the various qualitative data analysis programs (university choice) for coding using the designated coding protocol. Coding proceeded from macro domains to smaller units of coded material. Coding and

recoding were completed when all portions of the focus group experiences were classified, domains were “saturated,” and common themes emerged (Strauss & Corbin, 1994). Themes elicited for each focus group are presented in the Topline Summary Reports. The Summary Reports were presented to the partner universities for utilization in the crafting of Final Topic Specific Creative Briefs for designated content areas, and Final Focus Group Reports.

The coding analysis process was generated from 1) literature on the theory of the Cultural Construction of Realities, 2) literature of Grounded Theory, and 3) code domains identified in collaboration with participating universities, CDC, and ASPH (Glaser & Strauss, 1967; Strauss & Corbin, 1996). As Miles and Huberman (1994) note, the coding process is simultaneously data collection, method, and analysis (Miles & Huberman, 1994). Consequently, code categories are not simply convenient labels facilitating text retrieval, they are crucial data leading to an auditable trail of findings (Strauss & Corbin, 1994; Miles & Huberman, 1994). In this study, “code categories” will be referred to as “domains.”

Thematic analysis is a process which encodes qualitative information, therefore themes are generated as the coding proceeds. Research relevant statements were extracted from each interview, coded, and analyzed for meanings. These meanings were clustered into themes that could be analyzed across focus groups (Morse, 1994).

It is important to note that frequency of the response is only one aspect of identification of themes. The significance of meaning as judged by the nature of the subject’s discourse could mean that something less frequently mentioned could also represent a theme, provided, for example, that it is mentioned with great emphasis (Valle, 1989).

Issues of Coding Reliability

The coding of transcripts proceeded from the first coding of the manuscript to a process known as “check-coding” in which 1) two researchers code the same data set and coding difficulties or disagreements are discovered and/or 2) one researcher codes the data set and repeats the process on an identical un-coded manuscripts several days later. The processes of check-coding increase definitional clarity and validate reliability, and are also an assessment of internal consistency in individual coders (Miles and Huberman, 1994).

Inter-coder reliability (inter-rater reliability) was computed in the following manner:

$$\text{Reliability} = \frac{\text{\# of agreements between coders}}{\text{Total \# of agreements and disagreements}}$$

Inter-coder reliability was assessed by the partner universities for each of the focus groups conducted. Inter-coder reliability was considered to be acceptable when it equaled or exceeded 70%. Code-recode reliability was computed utilizing the same formula. However, for code-recode reliability results equal to or exceeding 80% must be obtained. The coding of focus groups by the partner universities achieved acceptable levels of inter-rater and/or code-recode reliability. Reliability of results was also confirmed by a process of cross-group validation in which themes were compared, and similarities noted. It is notable that cross-group reliability was also achieved in this research.

Limitations of the Study

The participants in the study represent a non-random convenience sample of the population. However, there is much discussion in the literature about the use of non-probabilistic sampling techniques. In probability samples, each member of the population has an equal chance of being included in the study. The most common uses of a probability sample are to determine distribution in a population and to test the relationships between variables. However, a primary limitation of this type of sampling is that it cannot easily be used to obtain information about the meaning of a construct (Morse, 1986).

The assumption underlying the use of non-probability sampling is that not all subjects experience the phenomenon of interest in the same ways. In qualitative research, sample size is dependent upon the purpose of the inquiry. In-depth information from a small target population is the desired outcome rather than dilute information from a large number of subjects. In a project such as this one, the researcher's main emphasis is on understanding and identifying explanatory models and cultural constructions which will in turn facilitate the crafting and delivery of messages important to the continued health and well-being of the public. In addition to other issues, the validity of the study after its completion depends upon the richness of the information obtained, and the observational and analytic skills of the researcher (Patton, 1990).

Issues of Validity

Validity is the degree to which the research measures what it is supposed to measure. Krueger (1994) states that the use of focus groups in qualitative research is valid if the focus groups are used carefully for a problem that is amenable to focus group inquiry. The validity depends upon the context in which it is used and the procedures followed in the conduction of the groups (Krueger, 1994). Focus groups are particularly valuable prior to initiating a social marketing campaign for the purpose on addressing designated population groups.

In order to ensure validity, the findings must be grounded in the focus group data, inferences made from the data must be logical, analytic strategies applied correctly, and alternative explanations accounted for (Schwandt & Halpern, 1988). Ideally, the research should have the possibility of being replicated by other investigators. "Transparency" of method addresses the issue of clarity of data and procedures such that the study may indeed be replicated at a later date (Miles & Huberman, 1994).

In this study external validity is limited in that the findings cannot be generalized to the entire US population. They can, however, be generalized to the populations that were accessed for the focus group participants. Therefore, the research contains important and valid information that may be of value to the CDC and ASPH in the crafting of pre-event messages addressing the issues extant in the realities of unconventional terrorism, especially in regard to targeted special populations.

HUMAN SUBJECTS PROTOCOL

Protocol development and IRB submission

Over the course of several months, representatives from each member institution provided input on the content and wording of a joint human subjects protocol to be submitted to each institutions' review board. Drafts were circulated between the institutions and changes were noted until a final document was agreed upon. In addition to the protocol, each institution prepared consent forms and packets under the guidelines of their review board for submission. After submission, each institution provided an approval letter to the funding agency.

Study Groups

The cooperative agreement under which the work was carried out was awarded by the Association of Schools of Public Health and the Centers for Disease Control and Prevention. Four institutions served as project partners: Saint Louis University; the University of Oklahoma at Oklahoma City; the University of California at Los Angeles; and the University of Alabama at Birmingham. Tulane University and the University of South Florida were awarded subcontracts by the University of Alabama at Birmingham and the University of North Texas was awarded a subcontract by the University of Oklahoma at Oklahoma City. As requested by the CDC, each of the four schools, along with subcontract institutions held scenario-based focus groups and pre-tested messages for different audience subgroups. Messages were tested among various elements of the US population (White, African American, Hispanic, Asian and Native American) as well as professional groups (first responders and public health professionals).

Role of subjects

The cooperative institutions accepted best practices of qualitative research to inform message development and pre-testing. Table X sets out the populations, sample sizes, and areas of study, or constructs, that will be studied.

The purpose of *formative research* in this study was threefold: (1) to gain a clearer understanding of the information needs of each target population as it relates to unconventional terrorism threats; (2) to identify likely applications of such information; and (3) to learn how best to present and deliver terrorism messages to each target population. To gather this information, focus group discussions with audience segment from both professional and general public populations were held. The purpose of *pre-testing* was to get feedback about draft or prototype materials from members of audiences of interest, for the purpose of enhancing the clarity and quality of materials. Focus groups were led by moderators trained to guide discussions in non-directive, and non-judgmental ways, and to elicit responses from all participants.

For the *pretesting portion* of the focus group discussions, a set of core content was developed into fact sheets. The fact sheets were read and given to participants to respond to and to use for reference in answering the interview questions, as they assess their quality. Specifically, participants in the focus groups were asked to assess these materials in the areas of: (1) Clarity of the material and information conveyed; (2) Comprehensibility of the information; (3) Adequacy of the level of detail; and (4) Recommendations for improvement.

As noted earlier, 55 focus groups were conducted as part of the overall Pre-Event Message Project. Of these, 16 related to terrorist events involving radioactive materials. Those 16 were as follows:

<u>General Population</u>	<u>Region</u>	<u>Date Conducted</u>	<u># Female Participants</u>	<u># Male Participants</u>
Urban AA	Southeast	8/5/03	4	2
Rural AA	Southeast	8/9/03	9	1
Urban AA	Midwest	7/21/03	7	1
Urban White	West	6/3/03	10	1
Urban White	Midwest	7/25/03	8	5
Rural White	Midwest	8/5/03	8	5
Urban Hispanic	Southeast	7/23/03	4	4
Urban Hispanic	Southwest	7/25/03	4	5
Rural Hispanic	Southwest	8/26/03	7	5
Urban Asian	West	8/20/03	5	10
English 2 nd Language	West	5/28/03	8	6
Native American	Midwest	8/28/03	6	6

<u>Professional Groups</u>				
1 st Responders	Southeast	8/6/03	1	8
1 st Responders	Midwest	8/28/03	0	10
Frontline PH	Southeast	8/2/03	3	3
Frontline PH	Midwest	8/28/03	4	3

Inclusion and exclusion criteria

As a collaborative effort, the combined study sample of all participating institutions is intended to draw on the principal population subgroups in the United States, as well as public health and emergency professionals. In drawing the convenience sample for the general public audience segments, every effort was made to balance representation of both sexes. Only adult populations were examined, so only individuals who have attained the legal age for consent under the applicable law in the state in which the focus groups will be conducted should be considered for participation in focus groups (45 CFR 46.402). For all institutions involved, the age of twenty-one years was decided. Consequently, children were excluded from the study.

For some project partners, focus group participants were limited only to adults from the specific audience segment. Other partners used more stringent criteria. In an attempt to minimize risk to study participants, individuals with a history of trauma were excluded from the study. Exclusion criteria included, but were not limited to, combat experience, violent crime, terrorist incident, motor vehicle accident, disaster (natural or manmade), domestic violence, or sexual abuse. Individuals with a history of a psychiatric illness including, but not limited to, anxiety disorder, depressive illness, bipolar disorder, posttraumatic stress disorder, psychosis, alcoholism, or substance abuse should also be excluded from focus group participation. Additionally, individuals who have had relatives or friends killed or injured in a terrorist incident were excluded. A subject self-report checklist to assess the presence or absence of the above features was devised.

Subject recruitment

Participants in focus group activities were drawn from a convenience sample of members from each target population. Each university established community and professional contacts, or used existing databases to derive a sample. Although groups were already delineated by race for general public and specific jobs for the professional groups, there was an attempt to consider age, SES, and gender while recruiting.

Focus groups were also stratified using an urban vs. rural distinction. Rural counties having less than 12,000 adults over the age of 16 were considered. Gender representation will be approximately half male / half female. Different literacy levels were included as well. This difference was important to consider in the development of pre-event messages so that messages are appropriate for all literacy levels.

Individual participants from all research segments were paid for a formative research session in which they were involved. Exceptions were those whose professions would not allow for the acceptance of compensation. Total focus group time was approximately 1 ½ to 2 hours in length.

Focus group procedure

As part of the focus group introductions, the focus group moderator reviewed issues related to confidentiality and risk/benefit. Participants were told that their participation is voluntary and that they may choose not to complete the study or any part of it without penalty or loss of benefits to which they are otherwise entitled. They were told that the materials they review and discuss may be potentially distressing and that they may choose not to participate in any part of

the discussion, to leave the group temporarily, or to terminate participation completely. Upon request, they would be given the name and telephone number of a mental health clinician. An informed consent document was reviewed by each participant before the group began, and in cases where the IRB protocol required it, signed by participants.

Referral information was readily available. The conducting institution contacted potential clinicians before focus groups begin to secure their willingness to assist in case a participant requires attention. The University of Oklahoma mental health team, a partner school, was willing to assist by telephone, in addition to a list of willing potential clinicians for referral purposes at a local level.

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Pictures of “Pre-Event Message” Focus Groups

Scenario: Terrorist Event Involving Radioactive Materials



Pilot Focus Group held at UAB
School of Public Health

Pilot Focus Group
Moderator: Jason Avery



Panel observing “First
Responder” Focus Group
Pictured (l to r): Betsy
Mitchell (CDC), Steven
Becker (UAB), Paula
Willey (UAB)

Findings: General Public



General Public

A total of 12 focus groups involving a “radioactive materials” scenario were conducted with members of the general public. The breakdown of the 12 groups by population segment was as follows: 3 African-American (2 urban, 1 rural); 3 White (2 urban, 1 rural); 3 Hispanic (2 urban, 1 rural); 1 Asian (urban); 1 ESL; and 1 Native American. In terms of geographic distribution, 3 of the 12 focus groups were conducted in the Southeast, 4 were conducted in the Midwest, 3 were conducted in the West, and 2 were conducted in the Southwest. The following presentation of key findings (with accompanying illustrative quotes) draws on the combined results of the 12 groups.

I. Comments about the Color Alert System

- **Some participants found the system vague or unclear**

“I have no clue what those mean.”

“I have always thought it was so vague that I didn’t understand what went into them changing the color anyway, so it didn’t have any meaning.”

“What is the point?”

“You can kind of speculate on your own. Oh, it is orange, well I guess that is one up.”

“First of all the color changes, there are so many colors, okay, nobody pays attention anyway.”

II. Concerns and responses to hypothetical incident involving radioactive materials

- **Family, children were a major focus**

“I’d have concern for my family.”

“Find out where my baby is.”

“I would be worried about my family.”

“I would have to go to my wife to make sure she was safe.”

“I would immediately, when I heard the news, I would start rounding up my family.”

- **Some participants indicated they might want to flee from the area**

“Well, I don’t shelter in place – I would be gathering my kids and stuff up.”

“I would still go get my children no matter what. Because to me that is everything.”

“...they may encourage me, but they haven’t convinced that it’s safer to go into this building....”

“My immediate concern would be to get me and my wife in the car and leave.”

“I think I’d probably be a little selfish and grab my immediate family and hit the road as fast as I could.”

“Get as far away as I could from the radiation.”

- **Some participants expressed the view that they would stay where they were**

“I’d want to stay home and try to seal everything off.”

“...this is radiation. This is so completely different from a tornado. And so, your children might be safe if they stay in their place. And if you leave you expose yourself, and if you take them you expose them too.”

“My first reaction would be flight, but I also know that in radiation you need to stay under cover regardless.”

“...I am a rule follower, if someone shouts out shelter I will stay....”

- **Find out more, get more information**

“I think you’ve got to just stay level-headed and make sure that you can account for everybody that’s in your house or that you care for and start getting the information, and then start making an educated decision on what you need to do....”

III. What do members of the public want to know?

- **Who did it, why did it happen, and will it happen again?**

“Why is this happening?”

“What caused it, why, what is the reason behind it?”

“I’d want to know who was responsible for it and if we’re expecting more....”

- **Where did it occur and is the wind blowing radioactive contamination in this direction?**

“The first thing I would do is find out where it blew up, which way the wind if blowing...”

“Is the wind drifting in any particular direction....?”

- **How much devastation has been caused, how big an area is affected?**

“I would want to know the amount of devastation that had taken place....”

“How big of an area?”

- **How do I protect myself, my family?**

“How do I protect my family?”

“And then I would be trying to figure out, you know, what in the world we are going to do, how we are going to survive this thing.”

- **What should I do if I am in the car when the incident takes place?**

“What happens if you are driving when it is happening?”

- **Are food and water supplies safe?**

“...what happens if the... water is contaminated, what do we do?”

“I see us drinking water and it being contaminated.”

“Wouldn’t anybody want to know whether our food and water sources had been contaminated?”

- **What about pets?**

“A pet can be affected just like me.”

“...I want to take my animals, too. I don’t want to leave them. I don’t want them to die.”

- **What is the danger level, how much radiation, how far away if “safe”?**

“What is the danger level?”

“How much radiation are we talking about?”

“How far away do I need to get?”

“I need to know how far I need to be from the area in order not to get eradicated.”

- **What exactly is radiation, how does it work?**

“So, I would like some information like this is what radiation is – how it works. Somebody is exposed to it, he carries it in the building, or however it works. Just in the same way that we know how to keep from getting salmonella.”

“What is radiation?”

“What is the difference between x-rays and radiation?”

“How are we going to know that we are exposed to radiation? Is there a, is it a, what is it, is it a powder, is it? How are we doing to know?”

- **When should I go to the doctor?**

“I’m just wondering at what point do they tell you to go to the doctor?”

- **How long is it going to last?**

“I would like to know how long it is going to last.”

- **What are the long-term effects of exposure?**

“You need to know the long-term effects.”

“If we’ve been exposed, what’s our life expectancy going to be?”

“What type of damage to the environment?”

- **What are the symptoms of exposure, what do we need to look for?**

“What are the symptoms that I need to look for?”

“I think one thing that people need to be informed about is what to expect as far as their body goes.... What would we need to look for? Is it blisters, am I going to breathe funny, am I going to do this? Because people need to know specifically what they need to look for, as far as what radiation is going to do to you personally, because there’s a lot of

people that when they get panicked they start hyperventilating. They start having problems and they immediately think that they've been exposed to something...."

"...what are the visible signs of contamination, if any?"

"Let's talk about some of the bad things that can possibly happen and some of the things you need to look out for..."

IV. Where would participants seek information?

- **The News Media**

Television

"I would listen to the television and try to keep myself informed more."

"I think 99 percent of people are going to turn to TV."

"TV. I would prefer pictures."

"I would watch TV and see what is happening."

Radio

"I think radio is ideal.... You may have electricity knocked out, so radio is going to be your best source."

"Probably radio, because your cell phones won't be working sooner or later, and your internet's going to be shut down.... Your TVs, the electricity goes off and it doesn't work...."

- **Some participants preferred local news stations, others preferred national outlets such as CNN**

"...all the information I want is just very local information...."

"I think that like if it is local news and we are looking for local information, I am going to want to look at the local stations...."

"I'm pretty much sticking to the local news."

"... CNN, Fox News, something like that."

"Everybody will be glued to CNN."

- **Other sources**

- **Computer/Internet**
- **Cellphone**
- **Emergency broadcast system/civil defense**
- **Word of mouth**

“I think they would have a lot of word of mouth. Because I think that in any type of nuclear you’re going to have a lot of things that are just not going to work electronically because of the EMP....”

V. Who does public see as good sources of information?

- **Some chose local sources**

“I think that the folks that are here... would know better what we should do....”

- **Fire chief, Police Chief, Sheriff’s Dept.**
- **Military, National Guard**
- **Civil Defense, Emergency Management**
- **Warning sirens**
- **County health dept**

“I would call public health, or the Sheriff’s Department... and emergency management.”

- **Others chose national sources with health expertise**

- **“The Surgeon General of the United States.”**

“That’s who you need because everybody that is going to be affected is going to wonder how this is going to affect my body and my life....”

- **CDC**

“I would come more close if they said it was from the CDC....”

VI. Other significant communication-related issues

- **Fatalism was not uncommon in focus groups; word “nuclear” was sometimes seen as associated with Hiroshima/Nagasaki**

“Well, the only thing I can think about is the bombs that were dropped on the Japanese.... The speed with which that radiation and heat traveled is tremendous. And most people died just, right now, after that flare.... So I don’t know what you could – I do not know what you do.”

“...I mean, you say nuclear and automatically the first thing that pops into everybody’s head is Hiroshima.”

“First thing I think of is death.”

“I think as far as radioactive emergency like that, there’s really not much you can do....”

- **A belief that not all information would be shared with the public was sometimes in evidence**

“...I doubt I’d get the full story from what’s reported.”

“Oh, we know we wouldn’t hear the full story.”

“...I trust the government but I think they’re not going to tell you....”

- **Providing good information was seen as a way of reducing misunderstanding, erroneous information, etc.**

“I would say part of educating people to understand things about nuclear activity, you know, how radiation comes out. Because when you get into word of mouth, boy, you hear everything, right? And you get a lot of erroneous information.”

- **Some participants emphasized the idea that it was important for the public to be given information in advance and to prepare in advance**

“...if the first time they ever hear what these things are is in the middle of it happening, there is just going to be a total panic.... if you haven’t been prepared for it and heard that information and know what to do when this happens and know what the possible results are. It doesn’t matter what they’re going to tell us during the time that it’s happening.”

- **Focus group participants expressed the view that information should always be simple, clear and understandable**

“... you need to inform people in very simple terms, because if you start using a lot of jargon that people don’t understand, it’s just going to cause more panic and more hysteria because people don’t understand what’s going on.”

“They’ll ignore it if they don’t understand it.”

“Take it to the most basic level.... I mean use the simplest words possible so that everybody or almost everybody is going to get it.”

- **Despite the fact that participants frequently indicated they would turn to the media for information, there was clear concern about media sensationalism**

“One of the biggest things that we battle is newsgroup or news media sensation. That needs to cease. I mean, that’s got to stop on something like this.”

“...take the sensationalism out of it.”

“They can oversimplify things a lot or they can make things way out of proportion....”

“...the media hypes things up....”

- **Several notable differences were noted across ethnic/racial populations**
 - Native Americans have significantly less positive view of media as trustworthy source of information.
 - African Americans frequently mention prayer as a response to the hypothetical attack
 - “Prayerful, I would probably be praying, Lord have mercy.”
 - Some segments emphasize importance of having information in other languages
 - “If you’re going to listen in English, you’re not going to understand all the news. . .”

VII. Public focus group feedback on CDC informational materials

- **The excerpt entitled “Preparing for a Radiological Emergency” was generally seen as useful**

“Very good information.”

“I think it would be very helpful, this stuff.”

“I think we can – with something like this, we’ll carry it out.”

“Inclusive and comprehensive.”

- **However, for a minority of participants, fatalism was still in evidence**

“...it’s not going to save you or anything.”

“If it’s radiation, if it’s very close to you, you’re not going to have to worry about any of this – you’re going to be dead.”

“I am not completely confident that these options will keep me safe....”

- **Participants expressed the view that advice and guidance would be more convincing if accompanied by evidence that it was “tried and true”**

“Even heard of it being used or having been tested or practiced somewhere, where it... proved itself to be effective. This has been used in whatever country.... It is not this theory we have, in a lab with you know rats and some radiation.... You said humans did this and it was something that showed us that is was actually used and effective in use.”

“...these have been tested or whatever....”

- **Not all participants understood the term “shelter in place”**

“The word shelter sounds a little confusing. I think people hear shelter first thing and think, time to interpret that. If shelter means stay where you are at and stay covered, that would be more clear.”

- **Information was sought on symptoms, when to get medical help**

“...people are going to be worried about... and they need to know what to look for as far as it they start having these symptoms, when do they need to get medical help, or what can they do at home to alleviate these symptoms.”

- **People wanted information on the duration of sheltering**

“How long are you taking shelter? How long should you take shelter? Do I stay there until somebody comes and gets you?”

- **Some individuals indicated that they would not follow decontamination recommendation to remove clothes; others said they would likely comply**

“I’m not going to take my clothes off outside. I’m not going to do that.”

“If I’m contaminated anyway, I’m going to do whatever I can to try to keep myself as safe as I can. And if that is one of the stipulations, taking off your clothes on the outside and going inside and shower, shampoo and all that, then I’m going to do it.”

- **The excerpt entitled “Radiation Exposure and Contamination” was generally seen as informative**

“I think it’s helpful and it’s written in a way that most people can understand.”

“...it’s pretty informative for pretty much anybody.”

“...it gives you information as far as what to do....”

- **However, participants wanted more information about symptoms, health effects**

“This doesn’t tell me anything about what it’s going to do to me.... It doesn’t tell you what to look for....”

“If I am contaminated, how is this going to affect me? I know it says I’ve got to get rid of it, you know, by removing outer layer of clothing, shower, etc. But what if I get it ingested into my lungs, what’s going to be the bottom line?”

“...it doesn’t really say anything about symptoms.”

“So, how long do we have and what can we do? Or do we just need to sit there and die....?”

- **More information was sought on how contaminated clothing should be removed and disposed of**

“I know from up at work when we work with the contaminated hazardous materials that there’s a way to take off clothes.”

“You have to roll them off and stuff like that. None of that’s contained in here.”

“... how to dispose of those contaminated things.”

“If something is contaminated what do you do with it?”

- **Participants wanted information about how long contamination would last**

“How long is it going to be in the environment, that we need to be concerned about contamination?”

“How long is this radiation going to last?”

- **Some participants found the discussion of exposure vs. contamination unclear**

“I think it’s kind of showing that being contaminated and being exposed to radiation is two different things here, and to me I don’t understand how it is.... When I was reading I had to go back and read it again....”

“Well, it makes you think, should you cut your hair off, I mean, I can see people thinking all sorts of things after reading this. Oh, my hair’s contaminated, I should cut it off.”

- **The word “plume” was not familiar to, or understood by, some focus group members**

“First of all, that word plume, what is that?”

- **Some participants wanted specific information on how internal and external contamination should be addressed**

“I would want to know... if you are exposed to radiation, you know, like internally, this is what it can do to you. Externally, this is what it can do to you. That way you kind of know what to look for.... Because if I am exposed I don’t want to go walk into my house and.... expose my children....”

- **Although the subject of KI was not addressed in the scenario or the information sheets, it was raised in one focus group**

“Is there a thyroid pill that kids can take that helps them along....?”

- **General suggestions for improving CDC information sheets**

- **The use of an official logo was seen as increasing the credibility of the information sheet**

“...certified by the CDC it would be more credible that way.”

- **Focus group members recommended that the CDC informational excerpts be made more clear and appealing to the eye**

“I think this sheet’s basically dull and that most people wouldn’t read this.”

“This is really, this way too dense in terms of copy. I mean I almost, you have to have larger bigger bullet points and maybe some bigger subheading....”

“The reading level of this sheet is a lot higher than the other materials.”

“We need a simple message that people do not have to really pay attention....”

“So I think that maybe a different color or bold print, you can get information here.”

- **People wanted contact numbers at the bottom of the sheet**

“I would imagine if you had something like this, you would probably want to have contact numbers here.”

- **Participants recommended the use of more pictures and graphics**

“I would still just make them two or three little pictures that tells you what to do, with very few words and just pictures.”

“...pictures... some people can’t read.”

“I mean, if you explain it to them, maybe they don’t remember the words but they come to see the pictures and they might understand what that means.”

“Like what the airlines use. You can sit down and not read a word of English and you’ve got the pictures.”

- **It was recommended that information sheets be prepared in other languages**

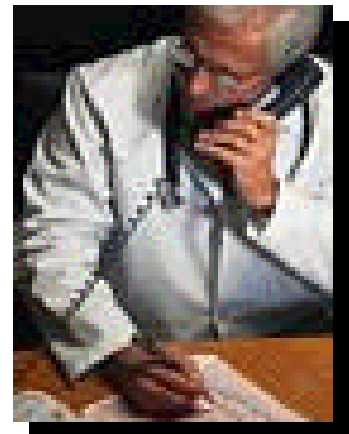
“Maybe have it in other languages.”

“...it should be printed in all languages.”

Findings: Professional Groups



**Police
Fire
EMS**



**Public
Health:
Environmentalists
PH Nurses
Laboratorians
Epidemiologists**



**Hospital
Emergency
Department
Physicians
and Nurses**

First Responders (Police, Firefighters, EMS)

Two focus groups were conducted with members of the first responder community. (For a discussion of additional focus groups held with hospital emergency department personnel and members of the public health workforce, see next two sections.) One of the first responder focus groups was conducted in the Southeast and the other was conducted in the Midwest. The following discussion draws on the combined results of the two groups.

I. First Responder Views of the Color Alert System

Some responders expressed **frustration** with what they saw as a stream of non-specific alerts.

“Here we go again.... everyday when you wake up it is something, I mean if it is not one thing it’s another.... we’ve been given so many of these threats....”

Concern was also expressed by some that the regular alerts were actually *reducing* readiness rather than improving it.

“I think every time they pull this trick our effectiveness goes down a little bit.”

“After a while it’s, you don’t take them, not that you don’t listen to what they say, but you don’t expect anything to happen either.”

II. First Responder Concerns Related to Terrorist Events Involving Radioactive Materials

First responders expressed a variety of concerns related to a terrorist incident involving radioactive materials. High on the list were the safety and protection of family, the protection and welfare of fellow responders, and carrying out professional duties and responsibilities. Self-protection and the threat posed by secondary devices were also highlighted. With respect to the event itself, responders both emphasized and were concerned about the “newness” of threats involving radiation. Specific concerns were expressed regarding the adequacy of equipment and training, problems in maintaining operational readiness, public reactions to radiation situations, public reaction should the power go out, the potential for overload of the responder system, and problems of coordination among responding agencies.

- **Family**

“The first thing that comes to my mind is my family....”

“I guess right off the bat, you know, if something happens, it would be my family.”

- **Other Responders**

“Was anybody that I work with involved? That would be my biggest concern after my family.”

“... but next [after family] is in what proximity what fire fighters would be close to it.”

“I wonder if there’s anybody I know that was hurt in this or killed or what ever...”

- **Professional Duties**

“The first thing would be just to take care of your family, then your brother fire fighter, then find out where the command is so that I can find out where I will be the most useful.”

“If you are wearing a badge you know that you are fixing to go to work - regardless of what kind of badge it is.”

“Family first, but I know in my capacity, it is time to work.”

“That is what we do, after family, we go to work.”

- **Self-Protection**

.... And then you think about, how can I do my job and help other people, and protect myself from getting hurt or killed.”

“...focused on two areas: Number one is protection of our own personnel... and second is trying to manage the incident...in a professional manner.”

- **Secondary Devices**

“Secondary devices would be one concern. You are always concerned about when one bomb goes off, or whatever, when you are working you’re also concerned about another one being set somewhere else waiting for us to come in and start doing work and detonating it to get us.”

“... a secondary event... could just decimate you if you’re not prepared and if you’re not thinking about that.”

- **The “Newness” of Terrorist Situations Involving Radioactive Material**

“Most people, including myself, go around thinking, well, that will never happen here. And when it actual does happen here, it is like I can’t believe it.”

“And I think... this is novel, this one is going to involve radiation or nuclear materials, this is a new one.”

“This is something unlike anything we could ever imagine to have to deal with.”

- **Are Equipment & Training Up to the Challenge of This Type of Event?**

“I just wonder if the training and equipment is up to it... whether our equipment and our training is going to be up to the challenge should something happen.”

- **Potential Problems Staying Fully Operational**

(While this item was raised in only one of the two first responder focus groups, it may be a sufficiently important issue to warrant inclusion here.)

“Let’s say theoretically you retain three fourths of your capacity. In a situation like this I don’t think anybody can predict how much of that three fourths is going to show up for work. Historically I think that what we have seen in many cases that we almost get more than the three fourths. You know, people show up that are retired and say, ‘I’m here to help,’ okay. But this is something unlike anything we could ever imagine to have to deal with. So I don’t know what you can expect.”

- **Concern over Potential Lack of Coordination Among Responding Agencies**

“You’re going to yell go and everybody is going to respond at the same time. Now that’s going to be something to behold.” (Firefighter)

“If somebody has a big incident people are going to come in without being asked to come in. They’re going to self-respond and then you have that much more chaos.”

- **Concern that Public Reaction to Radiation Could Complicate the Situation**

Panic/Flight:

“...as soon as we punch the radio and say that radiation is involved there’s probably going to be panic.” FF

“The general public will want to flee....”

Fear/Isolation:

“I think John Q. Public sitting at home is going to worry himself to death. They’re not going to want to go to work. They’re not going to want to send their kids to school. They are not going to want to go to the grocery store. They are going to want closed the doors, lock the doors.”



- **Concern that the Public Could Flood the 911 System with Calls**

“One thing that we will have to do when this goes out over the TV and the public see it, our run levels are going to increase dramatically. Because people are going to get paranoid and they are going to start calling 911 over everything. And we will be out constantly. We’ll still have to be cautious because we don’t know if it is going to be real or fake, but it will get really busy.”

III. What First Responders Want to Know

In the two first responder focus groups, participants indicated that there were several types of information that they would want to have after the occurrence of a terrorist event involving radioactive materials. These included information on self-protection, specific information on radiation protection, the location of the incident, the wind direction, and information on the type of agent and radiation involved.

- **Information on Self-Protection and Safety**

“How can I do my job and help other people, and protect myself from getting hurt or killed. There is always that safety issue you’ve got in the back of your head.”

- **Location and Magnitude of the Incident; Wind Direction**

“I would want know where the explosion took place and how far out the radiation may be.”

“The first thing we need to know is the location. Then it is critical that we know the wind direction.”

“Which way the wind is blowing?”

- **Information on the Type of Agent/Type of Radiation Involved**

“...the quicker we get that information out to the public, whether it is alpha, beta or gamma radiation, and say the exact extent of what it is, we can calm some of that stuff and that’s one of the keys to incident control or incident management.” FF

- **Specific Information on Radiation Protection Measures**

“I think you would want to know what the dose is.”

“How can I protect myself and others from excess radiation exposure.”

- **Information about whether the Radioactive Iodines are Involved**

“How are we doing to know whether or not the radioactive cloud contained iodine?”

- **Concrete Information about Potassium Iodide (KI)**

“...should I take potassium iodide.... where can I get it...”

IV. Responder Views on Preferred Sources of Information

In discussing preferred sources of information, responder focus group participants made several points. First, some participants expressed frustration with the color alert system, suggesting that the non-specific alerts might even contribute to a reduction in readiness. In terms of preferred sources of information *after* a terrorist event, participants

- **Official Channels: Chain of Command / Incident Command System / Law Enforcement Agencies / FBI**

“We operate under the incident command or incident management system. We would be able to pull information together fairly quickly.”

“First thing I would probably do is try to get through to police communications and say hey, what is going on, what can you tell me right now. What do we know?”

“The first call I’d make would be the FBI.”

- **Other Agencies with Relevant Expertise**

“There is the Centers for Disease Control...”

“I think there’s another thing too that you’d probably want to call the Nuclear Regulatory Commission...”

“we have expertise locally at the university”

- **CNN**

“Usually CNN is like your main source. I mean if it happens anywhere usually they are going to cover it. I mean when all this happened on 9/11, I mean, pretty much everybody was on CNN. That is where all your news coverage is.”

- **Local News Media**

“And local affiliates, ABC, NBS, CBS television stations.”

- **Computer/Internet**

“If I’m at my office, it is my computer.”

- **What if power is out?**

“If we have a major explosion somewhere and it disrupts electrical service, they’re not going to be able to turn on their radio or their television.... And that’s a problem in and of itself.”

“What source would they go to, to get information, if the radios are knocked out, if the TV is knocked out, do we have things in place to administer information?”

“One of the things that I’m not sure they have explored very well is the idea of... the emergency weather radios that are battery backed up and they could trigger it and come on....”

V. Who Should Present the Information to the Public?

- **Local figures seen as preferable**

“The hardest thing is going to be to find a public figure that people trust.”

“...one of the big mistakes I see – the State and Federal Governments make – is ... that they take the people at those levels to release information to the public.... I think that when the information goes out to the public, at the local level, it needs to be the police and fire chiefs or public information officers that do that.”

- **Local TV weather person seen as ideal information provider**

Familiar

“Many people in our area look at the news and see the weatherman every day. He is a person that people are familiar with, people go to him every day for information.”

“I’m looking at him on the news, I’m familiar with his information. I’m looking at him already for information every day.”

“Usually if something bad happens, it is usually weather. So when you go to the TV, there he is giving us information.”

Would be taken seriously

“Two o’clock in the morning, there he stands with his suspenders and shirt sleeves rolled up, and you think, ‘By God, this must be bad.’”

Seen as not having an axe to grind; not a politician

“Someone in his position, he has nothing to lose. Why would he tell something that he didn’t believe in, because it’s not like he will be voted out of office if he tells the wrong thing.”

VI. Responder Comments on NIOSH Information Sheets

- **While some responders found the sheets to be too basic, others found them useful**

Too Basic:

“My initial response for this is that it is good information, but by itself – as a firefighter – it wouldn’t help me a whole lot. If I’m ready for what’s going to happen, I should know this already.”

“I think overall this is pretty, if you are a fire fighter or EMT, this is pretty basic stuff.”

Useful:

It was useful. In general, some of the stuff I already knew, but at the same time it was useful.”

“In general I think the educational material is good information to know, it gives you an idea of some of the things that might need to be done....”

- **Some responders suggested combining the various information sheets rather than having one for each sub-specialty**

“The fire fighter and EMS, why don’t you just combine the information on both of them and it will save you from having two. The fire fighter and EMS is pretty much interchangeable.”

- **Some focus group members suggested linking information in the fact sheets to sources already known to responders**

“What you need to do... is steer them towards pieces of information that they’re familiar with.”

- **Participants liked the fact that the fact sheets contained information about potassium iodide (KI)**

“I found enlightening the part about the potassium iodide if you are over 40 your chances, I would have said give me that stuff and it would have been more harmful than good. So I thing the part about the age and over 40 is very valuable.”

- **Participants had questions about KI and wanted more information**

“Like taking the potassium iodide, I would want to think about that and know the full effects of that.”

“...about potassium iodide... I think you’re making a mistake if you just throw that information out to firefighters in this type of format because they’re not going to have the expertise to determine... it’s much the same way about the Cipro deal in the anthrax scares.”

“Like the KI, where can I get this, because right off the top of my head I wouldn’t have a clue.”

“The potassium iodide again, it comes right up off the top, should I take potassium iodide, but it don’t talk about where you would get it, how would you know you needed it.”

- **Participants recommended reorganizing the sheets; Suggested that KI issues not be the first topic**

“I think by that being the very first thing on the page, you give that the most importance.... Having it at the very top causes me to focus in on it.”

“I this is kind of picky, but I think you could take the white part and reorganize it a little bit. You just naturally look over at the educational material first, at least I did, but then I think the first thing should be ‘what precautions do I need to take to protect myself and others from excessive radiation,’ then second thing, ‘how will I monitor my radiation dosage,’ the third thing is ‘should I take KI’ or ‘what can I take if I am exposed’ and then explain the KI. Then ‘what do I do with contaminated items,’ and then ‘who is in charge.’”

- **Some responders wanted more information on inhalation risks**

“And also it doesn’t talk about what the greatest ... degree of danger actually is in the inhalation of this material.... it never touches the subject.”

- **Some responders wanted more information on disposal of contaminated material**

“...what do I do about contaminated items? And you’re saying, you know, isolate or dispose of in a proper available container. I think what you’ve just told them is to isolate the material and then let somebody else figure out what’s going to happen with it.”

- **Responders felt the NIOSH sheet section entitled “Educational Material” was problematic**

“The educational material it kind of gets to be filler or you think it is filler....”

“... it mentions ionizing and non-ionizing, but it never mentions alpha, beta, gamma and that might confuse people.”

“We are not talking microwave and cellphones.” [Statement recommending that discussion of non-ionizing radiation be taken out.]

“I mean the time, distance and shielding has value.”

- **Focus group participants recommended that more graphics be used in information sheets**

“...illustrations of what to do and what not to do have a greater impact than all the bulletins they can put together.”

“...a comic book, that idea may not be too far removed....”

“a lot of pictures”

- **For complex material, some participants recommended the use of videos**

Commenting on the Section of the CDC Fact Sheet entitled *Radiation Exposure and Contamination*:

“This kind of stuff you have to cover in PSAs. It’s too complex with the doctors and most people won’t read it anyway.”

“They won’t read it.”

“But they would watch a film on it or do something of that nature.”

Emergency Department Physicians and Nurses

One focus group (Midwest) was conducted with hospital emergency department physicians and nurses. On one level, hospital ED personnel could be considered “first responders” after a terrorist incident involving radioactive materials. They could be among the first to come in contact with affected and contaminated casualties, particularly if, as expected, many people self-report to healthcare facilities. On the other hand, ED physicians and nurses usually operate from their own facilities rather than rushing to the scene as EMTs, police and firefighters do. So their concerns, issues and information needs and preferences might be somewhat different. To ensure that such differences are not lost in a combined “responder” category, findings from the ED personnel focus group are being reported separately.

I. Hospital ED Concerns Related to Terrorist Events Involving Radioactive Materials

Hospital ED physicians and nurses expressed a range of concerns related to a terrorist incident involving radioactive materials. Among these were safety of family, adequacy of ED staffing, adequacy of training, whether sufficient meds were available, how responding staff could be coordinated effectively, whether proper equipment was available to handle radioactive contamination, how bodies of the dead would be handled, concerns that the hospital itself could be a target, how facility security could be maintained, concern that the hospital’s limited resources would be rapidly overwhelmed, expectations that the phone lines would be overwhelmed, concern that population flight could create more casualties that would further tax the hospital, concern that some hospital staff might leave, and concern that the hospital would be flooded with worried people, walk-ins, people self-reporting, and people fearing that they may have been exposed.

- **Family**

“My first reaction is going to be to call my wife, pull the kid out of school, and send them somewhere.”

- **Is ED staffing is adequate?**

“I hope they have enough staffing in the emergency room.”

- **Are preparedness and training adequate?**

“I would be very worried, because although we have drilled on this, it has been many, many, many, many, many years ago, and I would be concerned about how prepared we are to take this on as a healthcare facility.”

- **Are sufficient meds (pain, infection) available?**

“Where are we going to get enough drugs to treat these people. They're going to need a lot of pain medicine, a lot of antibiotics. There will be a lot of cuts, a lot of burns, traumas.”

- **How will responding staff be coordinated effectively?**

“One of the biggest deals is trying to coordinate all of these people who would respond, and where to put them and how to assign them, and how to deploy them.”

- **Is proper equipment available in ED to handle radioactive contamination?**

“I would be panicked wondering if we had the equipment, the proper equipment at the emergency department to take care of radiological or nuclear contamination.”

“Do we have the proper protective equipment?”

- **Concern over what would be done with bodies of the dead**

“When they start stacking up in this hospital, which they will, then we've got to have somewhere to go.”

- **Concern that hospital itself could be a target**

“How do we know, is there somebody detecting a bomb here in our facility? You know, we get all set up, prepared to protect the borders and all that, and actually somehow we've got a bomb in here. Is there some way to detect?”

- **Concern that population flight would result in more casualties, drain on hospital manpower**

“I can see a lot of people leaving town.”

“If they're smart they would.”

“I think that parents would be calling their children at the university and saying, ‘My, get out of town.’”

“That's going to be a drain on manpower. We can expect accidents. We can expect road rage out of that kind of thing, because people are going to get cut off as they're trying to move.”

- **Concern over possibility that some staff members may leave the hospital**

There was considerable discussion of this possibility, with various participants convinced that some members of staff would leave and other participants disagreeing.

“At that point, we have trouble maintaining our staff here, because our people are panicked too.”

“I don’t think so.”

“There’ll be people that slide out the side doors. I don’t think it would be a mass panic, but I think there’ll be people that will leave....”

“Or they’re worried about their families.”

“I would say that probably some of your folks in housekeeping, not all, but some. Same would be true for maybe like in registration, accounting....”

“Even though they’re here, and they’re good employees, family means a lot and they haven’t been here for 20 years.”

“I think that is true. I think that you’re going to have some clinical probably go too, but the majority of those people are in this profession for a particular reason, and that’s going to hold them here.”

- **Concern that hospital’s limited resources would rapidly be overwhelmed**

“I think we are easily overwhelmed.”

“Our resources would be easily overwhelmed.”

- **Expectation that phone lines would rapidly overload**

“I think the phone lines would tie up really fast. If those phone lines do tie up, we’re so dependent on that piece of equipment that we’re going to be stymied.”

- **Concern that the hospital would be flooded with worried people, walk-ins, people self-reporting, people fearing that they may have been exposed**

“Those that are being brought by ambulance is one thing, but you’re going to have a deluge of personnel brought here by private vehicle or they’re going to walk in here....”

“At any point, if there’s any type of, you know, if something like this was going to happen, if there was an exposure, people are going to freak.”

“I have a headache. Could it be that fallout already?”

“People just freak out and they just come in.”

“We’re going to have a problem with a lot of people just showing up with no expectation other than just going to the hospital, I’ll be safe now.”

“The trouble with this is that everybody knows where a tornado is and so you’re not going to show up at the hospital if you live five miles south of where the tornado hit. This is going to be a lot worse than something like that.”

“I think people would come to the hospital. I think if you have a threat of some kind yourself, you come to the hospital, whether it’s valid or not. So, I think we better worry about traffic and people showing up here.”

- **Hospital security**

“It makes me very anxious, but all I can say is we’ve talked about some situations where we might need, the first thing you may need to do is lock the doors.

“Controlling entrance into the hospital may be the first thing we have to do.”

II. What ED Physicians and Nurses Want to Know

- **What type of device was used?**

“I’d want to know very quickly if it was a dirty bomb or a nuclear bomb, because there is a difference.”

- **What radionuclide is involved?**

“I would want to know is what radionuclide, because the likelihood would be that it would be a medical radionuclide and that stuff doesn’t scare us.”

“If it’s not medical, then we’ve got another problem.”

“I want to know what is the radioactive material, because even with a dirty bomb there is a difference in dealing with something with a six-hour half-life and something with a half-life that runs to months.”

“I would still want that question as to the nuclide, because depending on what it is, I would want to know if it’s airborne or just surface. If it’s surface we decontaminate with soap and water, just wash it off. If we’ve got airborne, I’m worried about spreading it throughout the entire hospital.”

- **Wind direction**

“Weather report, which way the stuff’s going.”

“Where’s the wind blowing.”

- **Information on protecting hospital and personnel from radioactive contamination**

“How can we protect staff and ourselves from contamination?”

“I would want to know how we are going to keep our staff and our hospital from becoming contaminated.”

“Where do we go if people... contaminate the hospital. Where do we go from there?”

- **Who will provide guidance on the agent and appropriate treatment?**

“I would want to know where my knowledge base is on it. Who’s going to tell us what the, you know, what was used. Who can we call? It’s not like we call toxicology if we have someone that’s whacked out on drugs. Who are we going to call for this to find out what this is, how we treat these patients that have been exposed to it?”

- **What outside support is coming?**

“And I would also want to know very quickly what kind of support we could expect from outside agencies.”

“I would want to know what kind of assistance that we’re going to receive from the local government, from our state government.”

III. Communication Issues

- **Nuclear technicians were described as a useful source of information**

“Nuclear medicine technologists have been dealing with spills, and with accidents. We’ve actually done rehearsals, way back when, on decontaminating patients.... dealing with radioactive material is what they do all the time.”

“The nuclear people can give you some information, what is this stuff and what do we do. And, you have those people in the building all the time....”

- **Hospital ED staff see information as crucial for effective treatment and to reduce terror**

“The more information we have that would guide us to set our priorities, the better we can handle it, if we have that information.”

“The sooner the better, whatever information is available.”

“I think information is essential for us, but it's also essential for us to try to control the terror and the havoc, for us to give other people the calming that we would need to deal. We would need to have as much information as we could possibly acquire.”

- **Some hospital ED staff were concerned that they would not receive the information they need**

“Are we getting the full story?”

“Because of experience, I know that we don't always.”

- **Hospital staff expect to receive a wide range of inquiries and questions from the public**

“We're going to get inquiries from those that are at home. We're going to get inquiries of those that have relation here.”

Anticipated questions include:

“Yes, they're going to want to know how many miles is that radiation going to spread. How far away do they need to be to be safe.”

“How does it affect me? They're going to want to know that.”

“If next Tuesday it's going to be 95 degrees, does that mean I have to shut my air conditioning off at my house?”

“What are the symptoms I should look for if I had been exposed?”

“When will I know?”

IV. ED Personnel Feedback on NIOSH Information Sheets

- **Participants responded favorably and saw the information as useful *before* and *during* an event**

“Yes, this is good.”

“Everyone is saying yes... it's the ED Physician Nuclear Explosion handout.”

“Before and during is sort of the consensus here.”

- **Some focus group participants found the information about protective clothing to be confusing**

“That's a confusing statement, protective clothing protects you from contamination not the radiation. I think that is confusing.”

“I would like that to be more specific. Wear it, change it, wear it, don't change it, dispose of it before you leave the hospital. What do you do?”

“What kind of gown do I need? Tell me what kind of protective equipment I need.”

“The only problem, the only struggle that I have with this is, this is helpful, how can I protect myself and others, and the first one says protective clothing protects you from contamination not the radiation. So, time, distance, shielding, is there anything, if we have patients who are contaminated and their clothing is contaminated or the patient themselves is contaminated, what does protect us? We wear that, but it says it protects us from contamination, not the radiation. Is there anything that we can wear that would protect us from the radiation? Apparently not.”

- **Participants were unclear as to how “Time, Distance, Shielding” applied to the hospital ED**

“The applied time, distance, and shielding. Well, the only distance you can really get from taking care of a patient is this [an arm's length]. I mean, you know, and after all, the time that you spend with them is going to be longer than if they just have a few cuts and bruises. So, what does that mean?”

“I think this needs to be better, more specific what they mean about time, distance, and shielding.”

“And how do you shield yourself? I know that when we're assisting with radiology procedures and things we wear lead aprons. Is that what they mean by shielding?”

- **Participants felt that there should be more emphasis on patient decon**

“I have heard that if you would just get a clothing change on someone, you succeed with 90 percent of the decontamination, and I don't think that they are emphasizing this decontamination; get their clothes off of them and bag those clothes, nearly as much as they should be.”

“That's an important, practical thing that nurses need to know. Get their clothes off of them.”

- **Some participants felt that the discussion of badges was problematic**

“We don't have badges for all the people we'd need them for. We don't keep them here. Forget badges.”

- **Participants felt that demand for and provision of KI would be a major challenge, and that even those for whom it was not recommended would want it**

“I didn't know that they would say that adults over 40 don't need to take potassium iodide, because I think I would still want some.”

“Everybody's going to want it.”

“And it doesn't matter that it's not recommended. They're not going to care.”

“I immediately see another issue, and that is I doubt seriously that the pharmacists in this community have enough potassium iodide to block everybody's thyroid.”

V. ED Personnel Feedback on CDC Fact Sheets for Public

- **“Preparing for a Radiological Emergency” was seen as useful**

“This Preparing for a Radiological Emergency, this is very basic. I think that people can understand this. It's good information.”

“I think it's pretty good information. I like the way it's organized, and I think it is useful, and I think it's readable and understandable.”

- **However some words were seen as unclear**

“Okay, what's shelter in place?”

- **It was also suggested that the fact sheet also include a recommendation that people stay off phones**

“The only thing that would add is try to encourage people to stay off of the phones, so as not to tie up the phone lines.”

- **The discussion of “Radiation Exposure and Contamination” was seen as too complex for the public**

“It's a bit over the level of a lot of folks, yes.”

“The Radiation Exposure and Contamination, I think the words are too big. I think it's too technical, you know. I know that probably the population that we see in the emergency department, their reading level is somewhere between the sixth and eighth grade.”

“This is too difficult for them to understand, like proximity, feces.”

- **However, the “Radiation Exposure and Contamination” information was seen as very useful to *professionals***

“I like when a person has been exposed to radiation, radiation has penetrated the body, but not stayed inside the body. That person isn't radioactive, and they distinguish between a person who has been exposed to radiation, and a person who is contaminated with radiation. And, I think for healthcare workers that is an incredibly important distinction. Maybe this information on the Radiation, Exposure and Contamination handout where it talks about external and internal contamination, if it was added to this “how do I protect myself” sheet for the healthcare workers, I think that would be extremely helpful.”

- **Some participants were concerned that mention of Chernobyl was not helpful**

“The one I don't like, the Radiation, exposure and Contamination, you start handing this out and you say something about Chernobyl, I think that thousands of miles, all of a sudden it's not just going to be people around this area.... It's going to be the entire state... that is going to just fly into a dither.”

“Don't mention Chernobyl, because it's not going to effect thousands of miles.”

Public Health Workforce: Environmentalists, Epidemiologists, Laboratorians and Public Health Nurses

One focus group (Southeast) was conducted with professionals from the public health workforce.

I. Public Health Workforce Concerns Related to Terrorist Events Involving Radioactive Materials

Members of the public health workforce raised various concerns related to a terrorist incident involving radioactive materials. Among these were safety of family members, the welfare of co-workers, self-protection, and whether the health department was prepared.

- **Family**

“I feel terrified. Absolutely terrified for my family who isn’t with me.”

“I would be frantic. I am freaking out. I would want to account for the rest of my family. If the explosion took place near my family, I would be doubly frantic.”

“I would want to account for family and wonder where are they?”

“At this point. I would be concerned with my family and not myself. I would want to make sure that my family was protected with all the supplies they needed.”

“I would want to get out of [town] and get home and check on my family.”

- **Coworkers**

“I would also be thinking about my coworkers.”

- **Self-Protection**

“I would be concerned not only with family but I would be concerned about self protection as well.”

“What do I do? What is the smartest thing for me to do first and next?”

- **Concern about agency preparedness**

“The health department is extremely unprepared for a disaster like this.”

II. What Public Health Professionals Want to Know

- **What is going on, what happened**

“I would want to know what is going on.”

- **Why the attack took place and who is responsible**

“I would also want to know why someone did this.”

“I would want to know who did it. Who is responsible?”

“I would want to know who did it.”

- **What should I do? How can I protect myself and my family?**

“I would want to know what I could do to protect my family and myself. What measures should I take.”

“Most importantly, what do I do?”

“I would want to know what exactly I needed to do.”

- **How many casualties are there?**

“I would want to know the number of people that were injured. I would be very concerned about that.”

“How many people are injured? I would want just want to know how many people were hurting.”

“I would like to know who are the injured.”

- **Where are casualties being taken?**

“Where, Where are people going. Where are they sending them.”

- **How long will the danger/radiation last?**

“How long this will last?”

“I would want to know how long to stay in my current dwelling.”

“How long will the radiation last?”

III. A Lack of Clarity as to What Public Health’s Role is in a Terrorist Situation involving Radioactive Materials

[While participants expressed a desire to help, they were unclear as to what they could do and what public health’s role might be. Participants expressed the view either that they didn’t think they would be called upon, or that they had not been prepared, to assume a professional role in a radiological/nuclear terrorism situation.]

- **How can I help?**

“I would want to know if there is anything that I can do to help others.”

“At this point I would do whatever I was told and do whatever is needed. I would help out in any capacity.”

- **What is my role here?**

“I would be concerned that someone should take charge in the health department and tell us what we were doing next and what my role was.”

“What role would one play in this?”

- **I have not been told of, or prepared, for a role in this type of situation**

“At this point, I’m a nurse, but at this point I don’t know. I am not and don’t see myself and haven’t been told that I am, or have been prepared that I might be someone that might be used in the forefront.”

“I haven’t heard that I am involved and I don’t want to be involved.”

“So in my current capacity, I do not think that it would apply to me. But the emphasis of my job could be shifted.”

“Right now, the lab has no plans, and is not directly involved. We are more involved if there is a biological attack.”

IV. Public Health Views on Preferred Sources of Information

- **Media**

“I would look for guidance from the radio, guidance from the news stations....”

“I would listen to what was being broadcast on the news.”

“I guess I would stay close to the TV, close to the radio.”

“TV, radio, internet

“Media would be my primary source of information.”



- **Best media source?**

[Participants were divided, with some preferring national news and others preferring local news.]

“The national news, definitely national that comes on during these things.”

“I go to CNN.”

“CNN. For the standard it is up there.”

“National. Most likely. They can provide a broader perspective of what to do or what happened. I am not sure, but I would go to CNN or some national program.”

“I disagree. Since the scenario is in [this city] the local news would be more reliable and current.”

“I agree that the local news would be reliable at this point, but national would have more information. Local news would have quicker access.”

- **Other sources: public agencies**

“If something like this happened again, we would need guidance from above.”

“...any guidance from any public agencies as far as what the public should do.”

“In the absence of media, I would find my health officer or the WMD team and find out a plan.”

“I would listen to my scanner. Like a police or fire scanner.”

- **Other sources: ham radio, other people**

“We also have to think that television could be knocked out if we are dealing with a nuclear attack. Ham radio might be your best source or only source.”

“I would peek out the windows and call somebody to see if they were doing the same thing. Get some other opinions. Is everybody else doing what I am doing.”

V. Public Health Feedback on NIOSH Information Sheets

- **Participants saw the information as useful, informative**

“I thought it was pretty informative. I certainly want to do these protective measures over here. It tells you some things you can do. I don’t think very many people would know these things.”

“I think it is great. It readily indicates hazardous and radioactive. It has the icons for radiation. You look at it and know that it is something concerning that. It defines different kinds of radiation. It gives a picture. It also spells out protective measures. The things you can do to lessen the effects.”

“I think it is a pretty good document.”

“I think this is pretty good information. Lots of do’s and don’ts. Especially with the KI. If you are over 40 you don’t need that.”

- **However, participants thought the layout was confusing**

“When I first looked at this was distracting. As I looked at it, I did not know where to start reading.”

“I have a master’s degree, and it took me 3 minutes to figure out how to read it. My eyes did not know where to go first. Anything that takes that long usually ends up in the trash.”

“The sheet should be constructed to follow the way the eye moves. Educational materials should be called helpful terms, useful information, useful terms.”

- **Participants recommended changing the order/priority of the topics**

“The emphasis should be on how can I protect myself first! That is the most important thing that should be emphasized in this document. Bold that section. The effects of radiation then move KI section under how do I protect myself and others from radiation.”

“First, how do I protect myself, then KI, wear a badge, what do you do with your equipment. It makes a lot more sense.”

- **The information on non-ionizing radiation was seen as unnecessary**

“You listed the non-ionizing radiation which is basically harmless. At this point we are dealing harmful things and how to protect ourselves with ionizing radiation, so mentioning non-ionizing radiation is a waste of time and words.”

“It is pretty, it is educational, but should only contain information on harmful aspects.”

- **Participants were unclear as to how information on types of radiation (alpha, beta, gamma) could be used**

“As a nurse, this sheet means nothing to me. I don’t know how I am supposed to use this. Does it mean alpha only goes through the hand and beta will go through aluminum.”

“What does it say about alpha, beta, gamma rays. The chart is pretty, it’s colorful, but what does it mean?”

- **Some participants wanted more information on how radiation dose is monitored**

“It is not clearly spelled out how to monitor your radiation dose. We don’t have this information. Will someone hand out a radiation badge to you? How will we be monitored?”

- **Some focus group members wanted an explanation of why KI is taken**

“It says should I take KI. It is not clearly spelled out why I should take KI. I don’t see the answer in black and white. Does it help you, blah, blah, blah. The CDC recommends this. I don’t see what I would look for first as a nurse telling me why I should take this. Well, why should I take this? I am somebody that doesn’t even know what KI is looking at this.”

- **Participants wanted information on KI contraindications**

“A list of contraindications would be helpful to people. If you have this, don’t take this.”

- “You would have to be very careful especially with this KI administration. If you are responsible for issuing that out, you would certainly have to have some sort of medical history of other people. You know the person that you’re dealing with before you give them that. You could cause them some major problems.”

- **The term “shelter in place” was not clear to some participants**

“I look at the scenario and I see shelter in place. What does it mean? Does it mean stay where you are?”

“I assume shelter in place means to go to the place that affords you the greatest protection.”

- **Participants recommended that Spanish-language information be provided**

“When I first picked it up I thought how neat. Two colors, I look and say oh cool, it is in Spanish too. But where’s the Spanish? A lot of things that you read or that we have now are English and Spanish. I didn’t know what I should be reading first and I picked it up and said maybe there is Spanish some place. But there isn’t.”

Appendices

Appendix A

Message Development “Creative Brief” for Terrorist Events Involving Radioactive Material

Draft Creative Brief for Terrorist Events Involving RADIOACTIVE MATERIALS

First Draft for Comment – November 1, 2003

Project: “Targeted Pre-Event Message Development for WMD Threats” (ASPH/CDC)

Prepared by Pre-Event Message Team, The University of Alabama at Birmingham (UAB), School of Public Health, 530 RPHB, 1665 University Boulevard, Birmingham, AL 35294-0022 U.S.A.

1. Target Audience

- Primary target audience is the U.S. general population
- Special concerns and information needs of ethnic/racial subgroups are identified throughout the creative brief

2. Objective

To provide a set of simple, clear, scientifically accurate steps that individuals can take to protect themselves and their loved ones in the immediate aftermath of a terrorist incident involving radioactive materials:

- **COVER MOUTH AND NOSE:** Encourage people to cover their mouths and noses with a handkerchief or other cloth so as to avoid inhaling radioactive particles.
- **STAY INSIDE OR GO INSIDE AN UNDAMAGED BUILDING:** Encourage people who are already in an undamaged building to shut the windows, doors and ventilation system and stay there; Encourage people who were caught outside during a radioactive release to quickly go to an undamaged building. (Exception: If the terrorist incident occurs inside of *your* building, go outside.)
- **DON'T TOUCH UNUSUAL DEBRIS OR GLOWING OBJECTS:** Discourage people from touching unusual metal debris, glowing objects, etc. following the incident.
- **REMOVE DIRTY CLOTHES:** Encourage anyone who has gotten dust or dirt from the incident on himself or herself to remove all clothes, seal them in a plastic trash bag, shower or wash as well as possible, and put on clean clothes.
- **TUNE IN:** Encourage people to stay put and listen to the TV or radio for further information and instructions.

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Note: The five protective actions noted above are intended for use in the immediate aftermath of the incident. They represent a series of generic steps intended to reduce the risk of exposure/inhalation of radioactive materials. Once the specific nature of the incident/threat is known, it is advisable to use a second, more detailed set of pre-developed informational materials covering such issues as whether evacuation is appropriate, hazards posed by radioactive exposure and/or contamination, symptoms of exposure, whether to seek medical care, etc.) See Addendum to this Creative Brief for selected findings from focus groups related to these issues.

3. Potential Obstacles

General

- *Unclear or confusing terminology* – Research from the nuclear/radiological focus groups conducted as part of the Pre-Event project suggests that terms commonly found in fact sheets and other informational materials are misunderstood by members of the public. The word “plume,” was not clear to some, and the phrase “shelter in place” generated a variety of understandings often having to do with fallout shelters. (The single word “shelter” was also problematic.) It may be best, therefore, to avoid these terms in videos, fact sheets, etc. If the terms must be used, they should be simply and clearly explained so as to avoid confusion that impedes protective actions.
- *A sense that the protective measures are not “tried and true”* – Some respondents in focus groups expressed a lack of confidence in some of the protective measures, saying that there was no evidence that they really worked. (Sample quote: “Once you get radiation on you, you can wash all you want but the radiation is on you. You can take off your clothes and wash yourself all you want but the radiation is on you.”) Some indication that the measures are “tried and true,” complete with successful examples or support statements, would likely increase believability.

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- *Conflicting information from other sources* – Such conflicts or inconsistencies can create confusion. For example, one current federal government fact sheet advises that in an RDD situation, “the most effective is to leave the affected area. Do not shelter in place.” This advice (which is likely aimed at those in the most immediate area of an RDD attack) may be viewed as being in conflict with the more general advice of CDC and other agencies.
- *Stress and fear* – Overwhelming emotion is likely to affect many people in the immediate aftermath of a terrorist attack involving radioactive materials, reducing people’s ability to follow complicated directions. Message simplicity and clarity are crucial.
- *Desire to leave in order to gather children, loved ones* – People sometimes expressed the view that if steps to gather and/or protect children required them to leave, they would do so.
- *Tendency to flee* – Some people in focus groups indicated that their reaction to the situation would be to flee. Evidence from nuclear and radiological accidents also suggests that this could be a potential problem.

Obstacles to specific protective actions – removal of clothing

- *Modesty* – some people in focus groups expressed strong reservations about having to disrobe if there isn’t a private place in which to do it. In addition, people who are concerned about lack of availability of clean clothes may resist removing potentially contaminated clothes.

Obstacles related to ethnic/racial or other population groups

- *Fatalism, helplessness* – Although fatalism can be found throughout the general population, minority populations (esp. rural) appear to exhibit a higher degree (“There’s nothing you can do”). This could impede protective actions.

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- *Prayer/spirituality* -- African-Americans mentioned prayer and spirituality as an immediate reaction to the situation far more than other population segments. It is unclear how this might affect willingness to undertake protective actions. On the one hand, it might have a calming effect, increasing people’s ability to take protective measures. On the other hand, a combination of prayer and fatalism might reduce people’s willingness to undertake protective measures.
- *Lack of trust* – Minority populations appear to exhibit lower levels of trust in authorities. This could reduce the likelihood that official announcements would be followed or believed.

4. Key Promise

By taking a few simple steps, you can do a lot to protect yourself and your loved ones from contamination after a terrorist incident involving radioactive materials.

5. Support Statements/Reasons Why

- Radioactive contamination and inhalation of radioactive particles are two of the primary threats to health and safety after a terrorist incident involving radioactive materials.
- There are concrete things people can do to protect themselves.
- Covering nose and mouth with a handkerchief or cloth reduces the chance of inhaling radioactive particles.
- Staying inside an undamaged building, or going into an undamaged building, can significantly reduce general population doses.
- Not touching unusual debris or glowing objects can protect people from a

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serious source of radiation exposure.

- Removing and bagging soiled clothes, and showering/washing the body, can dramatically reduce radioactive contamination. Clothing removal eliminates more than 90 percent of surface radioactive contamination, and showering/washing the body can remove what is left on exposed skin.
- These steps are easy to do.
- These steps are effective.

6. Tone

Serious but positive and empowering. The main idea is to overcome the idea that “the radiation will inevitably get us” or the belief that “there is nothing we can do,” and impress upon people that a simple, easily done set of actions can significantly reduce the threat. “There *are* some simple things you can do to protect yourself and your family, the steps are *easy to do*, and *they work!*” (Doctors, scientists, research, experience, etc. shows that they really do help.)

7. Media

Television & Radio; Internet

8. Openings

It is highly likely that all news and radio stations will be providing special coverage of the unfolding event. This emergency message about protective actions will, therefore, have a wide range of openings.

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9. Creative Considerations

A two-part strategy is recommend:

- Part One: Have a pre-developed short video with the protective action information presented by Surgeon General or other high credibility healthcare professional (particularly one with expertise on radiation). Video would be kept “on the shelf” of health departments, emergency management agencies, etc. for immediate use after an event. Use of Surgeon General or other respected healthcare figure would quickly communicate that this is serious, that it deals with health, and that the information comes from an expert (not a “politician or bureaucrat”).
- Part Two: Because many people’s frame of reference for emergencies is natural disasters (tornados in the South, earthquakes in the West, etc.), and because many population segments have come to trust *local* weather forecasters and *local* newscasters in such situations, the pre-developed video above needs to be complemented with a media pack that can quickly be given to local media. Just as the local weather person or newscaster tells people how they protect themselves during a tornado, so, too, would this trusted person provide information on appropriate protective actions.

Other recommendations

- Use of an easy-to-remember acronym/word, with each letter standing for one of the protective actions, might be the easiest way to ensure that people can easily recall what steps they should take. This can be particularly helpful in the context of a crisis, where people are anxious, under stress, etc. An alternative would be to use some sort of rhyming words.
- Message should avoid confusing terms and use visuals/graphics.
- Need videos and media packets to be available in English and Spanish.

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Prepared by Pre-Event Message Team, The University of Alabama at Birmingham (UAB), School of Public Health, 530 RPHB, 1665 University Boulevard, Birmingham, AL 35294-0022 U.S.A.

10. Addendum to Creative Brief

As noted on page two of the creative brief, protective actions covered here are intended for use in the immediate aftermath of the incident. Once messages relating to them have been disseminated/broadcast, there will soon after be a need for a second set of messages more specifically keyed to the specific nature of the terrorist incident. Pre-developed informational materials will also be important for these follow-on messages. While this second set of messages requires preparation of a separate Creative Brief, findings from the “Radiation” focus groups provide some useful guidelines:

What did people indicate should be included in messages?

- Info. about “symptoms” of exposure to radiation/radioactive contamination
- Guidance on whether and when they need to seek medical care
- Where to go for medical care
- Where to find more information
- What to do to protect pets
- What to do if you are in a car
- What to do if your children are in school
- How long the event/the radiation will last

Note: Because potassium iodide, Prussian Blue, etc. were not covered in the focus groups involving the general public (this was only covered in the public health workforce & first responder groups), it may be useful to carry out some general public focus group research on this topic. In addition, given the specific information needs of professional groups, separate Creative Briefs for public health workers & first responders might be useful.

Appendix B

CDC Informational Materials Tested in Focus Groups with the General Public



CDC Informational Material Presented to Public Focus Groups

First Excerpt

Preparing for a Radiological Emergency

Your community should have a plan in place in case of a radiation emergency. Check with community leaders to learn more about the plan and possible evacuation routes. Check with your child's school, the nursing home of a family member, and your employer to see what their plans are for dealing with a radiation emergency. Develop your own family emergency plan so that every family member knows what to do. At home, put together an emergency kit that would be appropriate for any emergency. The kit should include the following items:

- A flashlight with extra batteries
- A portable radio with extra batteries
- Bottled water
- Canned and packaged food
- A hand-operated can opener
- A first-aid kit and essential prescription medications
- Personal items such as paper towels, garbage bags, and toilet paper

After a release of radioactive materials, local authorities will monitor the levels of radiation and determine what protective actions to take. The most appropriate action will depend on the situation. Tune to the local emergency response network or news station for information and instructions during any emergency. If a radiation emergency involves the release of large amounts of radioactive materials, you may be advised to "shelter in place," which means to stay in your home or office; or you may be advised to move to another location. If you are advised to shelter in place, you should do the following:

- Close and lock all doors and windows.
- Turn off fans, air conditioners, and forced-air heating units that bring in fresh air from the outside. Only use units to re-circulate air that is already in the building.
- Close fireplace dampers.
- If possible, bring pets inside.
- Move to an inner room or basement.
- Keep your radio tuned to the emergency response network or local news to find out what else you need to do.
- If you are advised to evacuate, follow the directions that your local officials provide. Leave the area as quickly and orderly as possible. In addition –
 - Take a flashlight, portable radio, batteries, first-aid kit, supply of sealed food and water, hand-operated can opener, essential medicines, and cash and credit cards.
 - Take pets only if you are using your own vehicle and going to a place you know will accept animals. Emergency vehicles and shelters usually will not accept animals.
- The safest place in your home during an emergency involving radioactive materials is a centrally located room or basement. This area should have as few windows as possible. The further your shelter is from windows, the safer you will be.
- If you are outside when the alert is given, try to remove clothing and shoes and place them in a plastic bag before entering the house. During severe weather, such as extreme

cold, remove at least the outer layer of clothes before entering the home to avoid bringing radioactive material into your shelter. Leave clothing and shoes outside. Shower and wash your body with soap and water. Removing clothing will eliminate 90% of radioactive contamination. By taking this simple step, you will reduce the time that you are exposed and also your risk of injury from the radiation.

- Before entering the shelter, turn off fans, air conditioners, and forced-air heating units that bring air in from the outside. Close and lock all windows and doors, and close fireplace dampers.
- When you move to your shelter, use duct tape and plastic sheeting to seal any doors, windows, or vents. After officials are sure the plume has passed over, however, you may wish to open up the windows to ventilate the area.
- Keep your radio tuned to an emergency response network at all times for updates on the situation. The announcers will provide information about when you may leave your shelter and whether you need to take other emergency measures.

Second Excerpt

Radiation Exposure and Contamination

Radioactive contamination occurs when radioactive material is deposited where it is not supposed to be. Air, water, surfaces, soil, plants, buildings, people, or animals may become contaminated when radioactive materials are released into the environment. Radioactive materials could be released into the environment from a nuclear power plant accident (like the Chernobyl accident in 1986), from an atomic bomb explosion (like the bomb dropped on Hiroshima during World War II), from someone accidentally releasing the material, or from someone intentionally spreading radioactive material in an act of terrorism. Each of these instances could result in radioactive contamination, and the size of the area and number of people affected would vary depending on the event. For example, the Chernobyl nuclear power plant accident caused radioactive contamination that spread thousands of miles and affected hundreds of thousands of people.

When a person has been **exposed** to radiation, radiation has penetrated the body, but has not stayed inside the body. When a person has an x-ray, they have been exposed to radiation, but they have not been contaminated. To be **contaminated**, a person must have radioactive material on them (external contamination) or inside of their body (internal contamination).

Internal contamination occurs when people ingest (swallow) or inhale (breathe in) radioactive materials, or when radioactive materials enter their body through an open wound in the skin. Once inside the body, some radioactive materials may leave the body, usually through the urine or feces. Some of the radioactive materials may stay in the body and be deposited in different organs, depending on the type of radioactive material.

External contamination occurs when radioactive materials in the form of dust, powder, or liquid come in contact with people's skin, hair, or clothing. However, once a person is externally contaminated, they can become internally contaminated, as well. If the contamination is not removed from the skin quickly, dust, powder, or liquid may be accidentally ingested or inhaled, or liquid may be absorbed through the skin and enter the blood stream.

Although people who are internally contaminated cannot contaminate others just by being in close proximity, they can expose others to radiation. However, coming in contact with bodily fluids (like urine or blood) from someone who is internally contaminated may result in contamination, depending on the radioactive material involved.


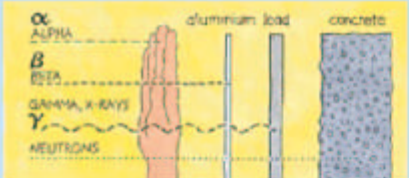

People who are externally contaminated with radioactive dust, powder, or liquid may contaminate other people or surfaces when they come into contact with them. For instance, someone who has radioactive dust on their clothing may leave dust particles behind when he or she sits in a chair or hugs someone.

Appendix C


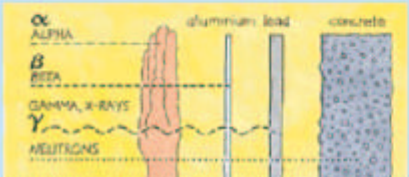

NIOSH Draft Materials Tested in First Responder, Emergency Department and Public Health Workforce Focus Groups




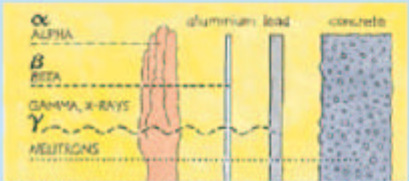

EMS

 <p>WORKPLACE SAFETY AND HEALTH</p>	<p align="center">National Institute for Occupational Safety and Health</p> <p align="center">How do I protect myself?</p> <p align="center"><i>During the early or initial phase of a response</i> DRAFT - Do Not Cite or Distribute - DRAFT</p>
<p align="center">Educational Material</p> <p>NOTE: Address life threatening conditions prior to initiating decontamination. It is unlikely that caring for contaminated patients will pose a significant risk to staff if appropriate precautions are taken.</p> <p>Ionizing Radiation: Has enough energy to dislodge electrons from the atom. This form of energy is mostly associated with medical x-rays and radioactive decay.</p> <p>Non-ionizing Radiation: Does not have enough energy to dislodge electrons from the atom. This form of energy is mostly associated with radio waves, microwaves, cell phones, and radar.</p>  <p>http://www.learnersonline.com/weekly/archive98/week39/</p> <p>Protective Measures:</p> <p>TIME: reduce the amount of time spent in a radiation area.</p> <p>DISTANCE: increase distance from a radiation source.</p> <p>SHIELDING: shield yourself from a radiation source</p> <p>PPE: : Items like disposable gloves and coveralls can help reduce the spread of radioactive materials. Respirators (N95 or better) can help prevent inhaling radioactive particles.</p>	<p align="center">Occupation: EMS Personnel Scenario: Nuclear Explosion</p> <p>Should I take Potassium Iodide (KI)?</p> <ul style="list-style-type: none"> The Food and Drug Administration recommends that KI be taken as soon as the radioactive cloud containing iodine from the explosion is close by Radioactive iodine present in the initial blast decays quickly, a single dose of KI may be all that is required. Local emergency management officials will tell people when to take KI It is not recommended that adults over 40 take KI because they have the smallest chance of developing thyroid cancer or disease, and they have a greater chance of having an allergic reaction to the high dose of iodine in KI. Taking KI will not protect you from other radioactive substances that may be present along with the radioactive iodine (See the CDC Website for more information) <p>Who is in charge?</p> <ul style="list-style-type: none"> The Federal Response Plan (http://www.app1.fema.gov/r-n-r/rfp/) will activate the Federal Radiological Emergency Response Plan, which uses the Incident Command System. State and Local Governments are ultimately responsible for public health and safety. <p>How can I protect myself and others from excessive radiation exposure?</p> <ul style="list-style-type: none"> Know the environment you are about to enter (radiation and safety hazards) Consult your chain of command to determine appropriate level of PPE Protective clothing protects you from contamination - not the radiation! Apply Time, Distance and Shielding Principles Wear radiation detection badges (dosimeters) Shower and change clothing before going home <p>How will I monitor my radiation dose?</p> <ul style="list-style-type: none"> Through the use of field instruments or radiation badges Following the chain-of-command, contact the appropriate party: <ul style="list-style-type: none"> Site Health and Safety Officer Local hospital nuclear medicine or radiology department State Emergency Management Program Federal Radiological Monitoring and Assessment Center (FRMAC): (702) 295-1381. Return radiation badges according to the instructions given to you. Know how to obtain your dose results <p>What do I do with any contaminated items?</p> <ul style="list-style-type: none"> Clothing, Linens, and Personal effects: Bag, Tag, and Isolate (potential evidence) or dispose in an appropriately labeled container Equipment: Detergent wash, if disposed then bag, tag, and isolate
<p>Further NIOSH Information: 1-800-35NOSH 1-888-246-2675 CDC/EOC</p> <p>http://www.cdc.gov/</p>	<p>Additional resources for radiation protection:</p> <ul style="list-style-type: none"> Treatment Protocol: REAC/TS (865) 576-1005 http://www.orau.gov/reacts/manage.htm NRC FAQ about Emergency Response: http://www.nrc.gov/what-we-do/regulatory/emerg-resp/faq.html EPA Radiation: http://www.epa.gov/radiation/ 


Firefighter

 <p>WORKPLACE SAFETY AND HEALTH</p>	<p>National Institute for Occupational Safety and Health</p> <p>How do I protect myself?</p> <p><i>During the early or initial phase of a response</i> DRAFT - Do Not Cite or Distribute - DRAFT</p>
<p align="center">Educational Material</p> <p>Ionizing Radiation: Has enough energy to dislodge electrons from the atom. This form of energy is mostly associated with medical x-rays and radioactive decay.</p> <p>Non-ionizing Radiation: Does not have enough energy to dislodge electrons from the atom. This form of energy is mostly associated with radio waves, microwaves, cell phones, and radar.</p>  <p><small>http://www.learnsonline.com/weekly/archive09/week30/</small></p> <p>Protective Measures:</p> <p>TIME: reduce the amount of time spent in a radiation area.</p> <p>DISTANCE: increase distance from a radiation source.</p> <p>SHIELDING: shield yourself from a radiation source</p> <p>PPE: Items like <i>full bunker gear</i> can help reduce the spread of radioactive materials. <i>Respirators (N95 or better)</i> can help prevent inhaling radioactive particles.</p> <p>Dosimeters: Measure the amount of radiation you may have been exposed to. There are many types which include <i>TLDs, Film badges, Pocket Ion Chambers, or Electronic Dosimeters.</i></p>	<p>Occupation: Fire Fighters Scenario: Nuclear Explosion</p> <p>Should I take Potassium Iodide (KI)?</p> <ul style="list-style-type: none"> • The Food and Drug Administration recommends that KI be taken as soon as the radioactive cloud containing iodine from the explosion is close by • Radioactive iodine present in the initial blast decays quickly, a single dose of KI may be all that is required. • Local emergency management officials will tell people when to take KI • It is not recommended that adults over 40 take KI because they have the smallest chance of developing thyroid cancer or disease, and they have a greater chance of having an allergic reaction to the high dose of iodine in KI. • Taking KI will not protect you from other radioactive substances that may be present along with the radioactive iodine (See the CDC Website for more information) <p>Who is in charge?</p> <ul style="list-style-type: none"> • The Federal Response Plan (http://www.app1.fema.gov/r-n-r/frp/) will activate the Federal Radiological Emergency Response Plan, which uses the Incident Command System. • FEMA is responsible for coordinating the federal response and is the conduit through which state and local officials request assistance • State and Local Governments are ultimately responsible for public health and safety. <p>How can I protect myself and others from excessive radiation exposure?</p> <ul style="list-style-type: none"> • Know the environment you are about to enter (radiation and safety hazards) • Consult your chain of command to determine appropriate level of PPE • Protective clothing protects you from contamination - not the radiation! • Apply Time, Distance and Shielding Principles • Wear radiation detection badges (dosimeters) • Shower and change clothing before going home <p>How will I monitor my radiation dose?</p> <ul style="list-style-type: none"> • Through the use of field instruments or radiation badges • Following the chain-of-command, contact the appropriate party: <ul style="list-style-type: none"> • Site Health and Safety Officer • Local hospital nuclear medicine or radiology department • State Emergency Management Program • Federal Radiological Monitoring and Assessment Center (FRMAC): (702) 295-1381. • Return radiation badges according to the instructions given to you. • Know how to obtain your dose results <p>What do I do with any contaminated items?</p> <ul style="list-style-type: none"> • Clothing, Linens, and Personal effects: Bag, Tag, and Isolate (potential evidence) or dispose in an appropriately labeled container • Equipment: Detergent wash if disposed then bag, tag, and isolate
<p>Further NIOSH Information: 1-800-35NIOSH 1-888-246-2675 CDC/EOC</p> <p>http://www.cdc.gov/</p>	<p>Additional resources for radiation protection:</p> <ul style="list-style-type: none"> • DOT Emergency Response Guide: http://www.tc.gc.ca/canutecc/erg_qmu/erg2000_menu.htm • EPA Radiation: http://www.epa.gov/radiation/ • NRC FAQ about Emergency Response: http://www.nrc.gov/what-we-do/regulatory/emer-resp/faqs.html 

Police

 <p>WORKPLACE SAFETY AND HEALTH</p>	<p align="center">National Institute for Occupational Safety and Health</p> <p align="center">How do I protect myself?</p> <p align="center"><i>During the early or initial phase of a response.</i> DRAFT - Do Not Cite or Distribute - DRAFT</p>
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Emer. Dept. Physician





**WORKPLACE
SAFETY AND HEALTH**

National Institute for Occupational Safety and Health

How do I protect myself?

During the early or initial phase of a response
DRAFT - Do Not Cite or Distribute - DRAFT

**Educational
Material**

Recommended KI Dosages

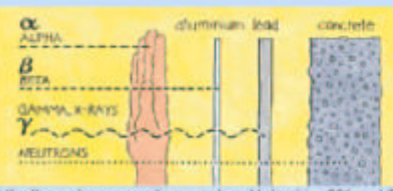
Adult	130 mg
Children (3 to 18)	65 mg
Children (1 to 3)	32 mg
Infants	16 mg

<http://www.cdc.gov/nceh/radiation/ki.htm>

Acute Radiation Sickness

Dose* (rem)	Initial Symptoms
0 - 35	None
35 - 75	Nausea, mild headache
75 - 125	Transient mild nausea. Vomiting in 5-30% of personnel.
125 - 300	Transient mild to moderate nausea and vomiting in 20-70% of personnel. Mild to moderate fatigability and weakness in 25-60% of personnel.
300-500	Transient moderate nausea and vomiting in 50-90% of personnel. Early: Mild to moderate fatigability and weakness in 80-100% of personnel.
500-800	Moderate to severe nausea and vomiting in 50-90% of personnel. Early: Moderate fatigability and weakness in 80-100% of personnel. Frequent diarrhea.
800-3,000+	Severe nausea, vomiting, fatigability, weakness, dizziness and disorientation. Moderate to severe fluid and electrolyte imbalance, hypotension, possible high fever, and sudden vascular collapse.

Source: NCRP Report #138.
*100 rem = 1 Sievert (Sv)



<http://www.learnersonline.com/weekly/archive99/week39>

Occupation: ED Physician
Scenario: Nuclear Explosion

Should I take Potassium Iodide (KI)?

- The Food and Drug Administration recommends that KI be taken as soon as the radioactive cloud containing iodine from the explosion is close by
- Radioactive iodine present in the initial blast decays quickly, a single dose of KI may be all that is required.
- Local emergency management officials will tell people when to take KI
- It is not recommended that adults over 40 take KI because they have the smallest chance of developing thyroid cancer or disease, and they have a greater chance of having an allergic reaction to the high dose of iodine in KI.
- Taking KI will not protect you from other radioactive substances that may be present along with the radioactive iodine.

How can I protect myself and others from excessive radiation exposure? (NOTE: Address life threatening conditions prior to initiating decontamination. It is unlikely that caring for contaminated patients will pose a significant risk to staff if appropriate precautions are taken.)

- Protective Clothing protects you from contamination - not the radiation! (e.g., scrubs, gown, mask, cap, eye protection, double gloves, and shoe covers)
- Apply Time, Distance and Shielding Principles
- Wear radiation detection badges (dosimeters).
- Decontaminate Patient (e.g., remove clothing and wash exposed areas; where possible, allow patients to decontaminate themselves)
- Isolate contaminated patients as much as possible to minimize contamination throughout work areas
- Notify staff of potential exposure (note in medical record, etc.)
- Shower and change clothing before going home

How will I monitor my radiation dose?

- Through the use of field instruments or radiation badges
- Following the chain-of-command, contact the appropriate party:
 - Site Health and Safety Officer
 - Local hospital nuclear medicine or radiology department
 - State Emergency Management Program
 - Federal Radiological Monitoring and Assessment Center (FRMAC): (702) 295-1381.
- Return radiation badges according to the instructions given to you.
- Know how to obtain your dose results


What do I do with any contaminated items (clothing, equipment, personal effects, etc.)?

- Clothing, Linens, and Personal effects: Bag, Tag, and Isolate (potential evidence) or dispose in an appropriately labeled container
- Equipment: Detergent wash, if disposed: bag, tag, and isolate


Additional resources for radiation protection:

- Treatment Protocol: REAC/TS (865) 576-1005
<http://www.orau.gov/reacts/manage.htm>
- Armed Forces Radiobiology Research Institute: <http://www.afri.usuhs.mil/>
- EPA Radiation: <http://www.epa.gov/radiation/>

Further NIOSH Information:
1-800-35NIOASH
1-888-246-2675 CDC/EOC
<http://www.cdc.gov/>



Emer. Dept. Nurse





**WORKPLACE
SAFETY AND HEALTH**

National Institute for Occupational Safety and Health

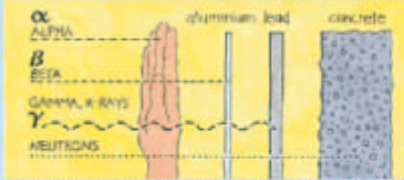
How do I protect myself?

During the early or initial phase of a response
DRAFT - Do Not Cite or Distribute - DRAFT

**Educational
Material**

NOTE: Address life threatening conditions prior to initiating decontamination. It is unlikely that caring for contaminated patients will pose a significant risk to staff if appropriate precautions are taken.



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Source: NCRP Report #138.
* 100 rem = 1 Sievert (Sv)

Occupation: ED Nurse
Scenario: Nuclear Explosion

Should I take Potassium Iodide (KI)?

- The Food and Drug Administration recommends that KI be taken as soon as the radioactive cloud containing iodine from the explosion is close by
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- Taking KI will not protect you from other radioactive substances that may be present along with the radioactive iodine.

How can I protect myself and others from excessive radiation exposure?

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- Wear radiation detection badges (dosimeters).
- Decontaminate Patient (e.g., remove clothing and wash exposed areas; where possible, allow patients to decontaminate themselves)
- Isolate contaminated patients as much as possible to minimize contamination throughout work areas
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 - Federal Radiological Monitoring and Assessment Center (FRMAC): (702) 295-1381.
- Return radiation badges according to the instructions given to you.
- Know how to obtain your dose results

What do I do with any contaminated items (clothing, equipment, personal effects, etc.)?


- Clothing, Linens, and Personal effects: Bag, Tag, and Isolate (potential evidence) or dispose in an appropriately labeled container
- Autoclaving and ETO will not remove radioactive contamination
- Equipment: Detergent wash, if disposed then bag, tag, and isolate

Further NIOSH Information:
1-800-35NIOASH
1-888-246-2675 CDC/EOC


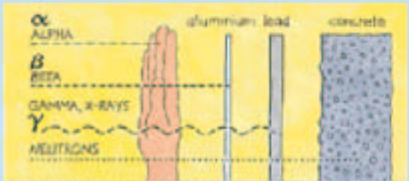

<http://www.cdc.gov/>

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Public Health: Environmentalist

 <p>WORKPLACE SAFETY AND HEALTH</p>	<p>National Institute for Occupational Safety and Health</p> <p style="color: red; font-size: 1.2em;">How do I protect myself?</p> <p style="color: blue; font-size: 0.8em;">During the early or initial phase of a response DRAFT - Do Not Cite or Distribute - DRAFT</p>						
<p style="text-align: center;">Educational Material</p> <p>Ionizing Radiation: Has enough energy to dislodge electrons from the atom. This form of energy is mostly associated with medical x-rays and radioactive decay.</p> <p>Non-ionizing Radiation: Does not have enough energy to dislodge electrons from the atom. This form of energy is mostly associated with radio waves, microwaves, cell phones, and radar.</p>  <p><small>http://www.learnersonline.com/weekly/archive99/week39/</small></p> <p>Protective Measures:</p> <p>TIME: reduce the amount of time spent in a radiation area.</p> <p>DISTANCE: increase distance from a radiation source.</p> <p>SHIELDING: shield yourself from a radiation source</p> <p>PPE: Items like disposable gloves and coveralls can help reduce the spread of radioactive materials. Respirators (N95 or better) can help prevent inhaling radioactive particles.</p> <p>U.S. Occupational Annual Dose Limits*:</p> <table border="0" style="width: 100%;"> <tr> <td>Whole body</td> <td style="text-align: right;">5 rem</td> </tr> <tr> <td>Hands, feet, and skin</td> <td style="text-align: right;">50 rem</td> </tr> <tr> <td>Lens of eye</td> <td style="text-align: right;">15 rem</td> </tr> </table> <p><small>*(100 rem = 1 Sievert or Sv)</small></p>	Whole body	5 rem	Hands, feet, and skin	50 rem	Lens of eye	15 rem	<p style="text-align: center;">Occupation: Environmentalist Scenario: Nuclear Explosion</p> <p>Although an Environmentalist may include a variety of professions (e.g., Industrial Hygienists, Sanitarians, Env./Civil Engineers), your potential for radiation exposure is expected to be similar in this scenario.</p> <p>Should I take Potassium Iodide (KI)?</p> <ul style="list-style-type: none"> The Food and Drug Administration recommends that KI be taken as soon as the radioactive cloud containing iodine from the explosion is close by Radioactive iodine present in the initial blast decays quickly, a single dose of KI may be all that is required. Local emergency management officials will tell people when to take KI It is not recommended that adults over 40 take KI because they have the smallest chance of developing thyroid cancer or disease, and they have a greater chance of having an allergic reaction to the high dose of iodine in KI. Taking KI will not protect you from other radioactive substances that may be present along with the radioactive iodine. (See the CDC Website for more information) <p>How can I protect myself and others from excessive radiation exposure?</p> <ul style="list-style-type: none"> Know the environment you are about to enter (radiation and safety hazards) Consult your chain of command to determine appropriate level of PPE Protective clothing protects you from contamination - not the radiation! Apply Time, Distance and Shielding Principles Wear radiation detection badges (dosimeters) Shower and change clothing before going home <p>How will I monitor my radiation dose?</p> <ul style="list-style-type: none"> Through the use of field instruments or radiation badges Following the chain-of-command, contact the appropriate party: <ul style="list-style-type: none"> Site Health and Safety Officer Local hospital nuclear medicine or radiology department State Emergency Management Program Federal Radiological Monitoring and Assessment Center (FRMAC): (702) 295-1381. Return radiation badges according to the instructions given to you. Know how to obtain your dose results <p>What do I do with any contaminated items?</p> <ul style="list-style-type: none"> Clothing, Linens, and Personal effects: Bag, Tag, and Isolate (potential evidence) or dispose in an appropriately labeled container Equipment: Detergent wash, if disposed then bag, tag, and isolate
Whole body	5 rem						
Hands, feet, and skin	50 rem						
Lens of eye	15 rem						
<p>Further NIOSH Information:</p> <p style="text-align: center;">1-800-35NIOASH</p> <p style="text-align: center;">1-888-246-2675 CDC/EOC</p> <p style="text-align: center;">http://www.cdc.gov/</p>	<p>Additional resources for radiation protection:</p> <ul style="list-style-type: none"> NRC FAQ about Emergency Response: http://www.nrc.gov/what-we-do/regulatory/emer-resp/faqs.html EPA Radiation: http://www.epa.gov/radiation/ 						

Public Health: Epidemiologist





**WORKPLACE
SAFETY AND HEALTH**

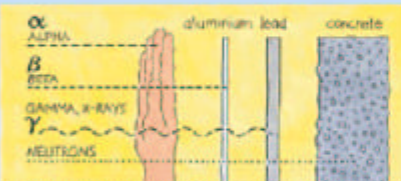
National Institute for Occupational Safety and Health

How do I protect myself?

During the early or initial phase of a response
DRAFT - Do Not Cite or Distribute - DRAFT

**Educational
Material**



<http://www.learnersonline.com/weekly/archive99/week39/>

Protective Measures:
TIME: reduce the amount of time spent in a radiation area.
DISTANCE: increase distance from a radiation source.
SHIELDING: shield yourself from a radiation source.
PPE: Items like disposable gloves and coveralls can help reduce the spread of radioactive materials. Respirators (N95 or better) can help prevent inhaling radioactive particles.

Acute Radiation Sickness

Dose* (rem)	Initial Symptoms
0 - 35	None
35 - 75	Nausea, mild headache
75 - 125	Transient mild nausea, vomiting in 5-30% of personnel
125 - 300	Transient mild to moderate nausea and vomiting in 20-70% of personnel. Mild to moderate fatigue and weakness in 25-60% of personnel.
300-500	Transient moderate nausea and vomiting in 50-90% of personnel. Early: Mild to moderate fatigue and weakness in 80-100% of personnel.
500-800	Moderate to severe nausea and vomiting in 50-90% of personnel. Early: Moderate fatigue and weakness in 80-100% of personnel. Frequent diarrhea.
800-3,000+	Severe nausea, vomiting, fatigue, weakness, dizziness and disorientation. Moderate to severe fluid and electrolyte imbalance, hypotension, possible high fever, and sudden vascular collapse.

Source: NCRP Report #138.
* 100 rem = 1 Sievert (Sv)

Further NIOSH Information:
1-800-35NIOSH
1-888-246-2675 CDC/EOC
<http://www.cdc.gov/>

Occupation: Epidemiologist
Scenario: Nuclear Explosion

As an epidemiologist, your potential for radiation exposure is recognized to be low. However, in the early phase of an emergency response you could serve various roles that might increase your radiation exposure potential (e.g., interacting with contaminated individuals).

Should I take Potassium Iodide (KI)?

- The Food and Drug Administration recommends that KI be taken as soon as the radioactive cloud containing iodine from the explosion is close by.
- Radioactive iodine present in the initial blast decays quickly, a single dose of KI may be all that is required.
- Local emergency management officials will tell people when to take KI.
- It is not recommended that adults over 40 take KI because they have the smallest chance of developing thyroid cancer or disease, and they have a greater chance of having an allergic reaction to the high dose of iodine in KI.
- Taking KI will not protect you from other radioactive substances that may be present along with the radioactive iodine. (See the CDC Website for more information)

Who is in charge?

- The Federal Response Plan (<http://www.app1.fema.gov/r-n-r/frp/>) will activate the Federal Radiological Emergency Response Plan, which uses the Incident Command System.
- DOD or DOE and the FBI (criminal investigation) will likely be the Lead Federal Agencies (LFA) early in the response phase.
- State and Local Governments are ultimately responsible for public health and safety.

How can I protect myself and others from excessive radiation exposure?


- Know the environment you are about to enter (radiation and safety hazards)
- Consult your chain of command to determine appropriate level of PPE
- Protective clothing protects you from contamination - not the radiation!
- Apply Time, Distance and Shielding Principles
- Wear radiation detection badges (dosimeters)
- Shower and change clothing before going home

How will I monitor my radiation dose?


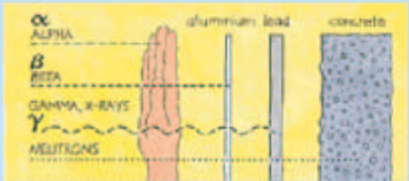

- Through the use of field instruments or radiation badges
- Following the chain-of-command, contact the appropriate party:
 - Site Health and Safety Officer
 - Local hospital nuclear medicine or radiology department
 - State Emergency Management Program
 - Federal Radiological Monitoring and Assessment Center (FRMAC): (702) 295-1381.
- Return radiation badges according to the instructions given to you.
- Know how to obtain your dose results

Additional resources for radiation protection:


- NRC FAQ about Emergency Response: <http://www.nrc.gov/what-we-do/regulatory/emerg-resp/faqs.html>
- EPA Radiation: <http://www.epa.gov/radiation/>



Public Health: Nurse

 <p>WORKPLACE SAFETY AND HEALTH</p>	<p>National Institute for Occupational Safety and Health</p> <p style="color: red; font-size: 1.2em;">How do I protect myself?</p> <p style="color: blue; font-size: 0.8em;">During the early or initial phase of a response DRAFT - Do Not Cite or Distribute - DRAFT</p>
<p style="text-align: center;">Educational Material</p> <p>Ionizing Radiation: Has enough energy to dislodge electrons from the atom. This form of energy is mostly associated with medical x-rays and radioactive decay.</p> <p>Non-ionizing Radiation: Does not have enough energy to dislodge electrons from the atom. This form of energy is mostly associated with radio waves, microwaves, cell phones, and radar.</p> <div data-bbox="224 877 630 1056" style="text-align: center;">  </div> <p style="font-size: 0.8em;">http://www.learnonline.com/weekly/archive99/week39/</p> <p>Protective Measures:</p> <p>TIME: reduce the amount of time spent in a radiation area.</p> <p>DISTANCE: increase distance from a radiation source.</p> <p>SHIELDING: shield yourself from a radiation source</p> <p>PPE: Items like disposable gloves and coveralls can help reduce the spread of radioactive materials. Respirators (N95 or better) can help prevent inhaling radioactive particles.</p> <p>Dosimeters: Measure the amount of radiation you may have been exposed to. There are many types which include TLDs, Film badges, Pocket Ion Chambers, or Electronic Dosimeters.</p>	<p>Occupation: Public Health Nurse Scenario: Nuclear Explosion</p> <p>Should I take Potassium Iodide (KI)?</p> <ul style="list-style-type: none"> The Food and Drug Administration recommends that KI be taken as soon as the radioactive cloud containing iodine from the explosion is close by Radioactive iodine present in the initial blast decays quickly, a single dose of KI may be all that is required. Local emergency management officials will tell people when to take KI It is not recommended that adults over 40 take KI because they have the smallest chance of developing thyroid cancer or disease, and they have a greater chance of having an allergic reaction to the high dose of iodine in KI. Taking KI will not protect you from other radioactive substances that may be present along with the radioactive iodine (See the CDC Website for more information) <p>How can I protect myself and others from excessive radiation exposure?</p> <ul style="list-style-type: none"> Know the environment you are about to enter (radiation and safety hazards) Consult your chain of command to determine appropriate level of PPE Protective clothing protects you from contamination - not the radiation! Apply Time, Distance and Shielding Principles Wear radiation detection badges (dosimeters) Decontaminate Patient (e.g., remove clothing and wash exposed areas; where possible, allow patients to decontaminate themselves) Isolate contaminated patients as much as possible to minimize contamination throughout work areas Shower and change clothing before going home <p>Do I need to wear a radiation detection badge (dosimeter)?</p> <ul style="list-style-type: none"> Depends on your activities and potential for radiation exposure. You may be asked to wear a badge even though your potential is minimal. <p>How will I monitor my radiation dose?</p> <ul style="list-style-type: none"> Through the use of field instruments or radiation badges Following the chain-of-command, contact the appropriate party: <ul style="list-style-type: none"> Site Health and Safety Officer Local hospital nuclear medicine or radiology department State Emergency Management Program Federal Radiological Monitoring and Assessment Center (FRMAC): (702) 295-1381. Return radiation badges according to the instructions given to you. Know how to obtain your dose results <p>What do I do with any contaminated items (clothing, equipment, personal effects, etc.)?</p> <ul style="list-style-type: none"> Clothing, Linens, and Personal effects: Bag, Tag, and Isolate (potential evidence) or dispose in an appropriately labeled container Equipment: Detergent wash, if disposed then bag, tag, and isolate
<p>Further NIOSH Information: 1-800-35NOSH 1-888-246-2675 CDC/EOC</p> <p>http://www.cdc.gov/</p>	<p>Additional resources for radiation protection:</p> <ul style="list-style-type: none"> NRC FAQ about Emergency Response: http://www.nrc.gov/what-we-do/regulatory/emer-resp/faq.html EPA Radiation: http://www.epa.gov/radiation/ <div data-bbox="1101 1759 1393 1833" style="text-align: right;">  </div>

Public Health: Laboratorian

 <p>WORKPLACE SAFETY AND HEALTH</p>	<p>National Institute for Occupational Safety and Health</p> <p style="color: red; font-size: 1.2em;">How do I protect myself?</p> <p style="color: blue; font-size: 0.8em;">During the early or initial phase of a response DRAFT - Do Not Cite or Distribute - DRAFT</p>						
<p style="text-align: center;">Educational Material</p> <p>Ionizing Radiation: Has enough energy to dislodge electrons from the atom. This form of energy is mostly associated with medical x-rays and radioactive decay.</p> <p>Non-ionizing Radiation: Does not have enough energy to dislodge electrons from the atom. This form of energy is mostly associated with radio waves, microwaves, cell phones, and radar.</p> <div data-bbox="224 877 630 1056" data-label="Figure"> <p>The diagram illustrates the penetration of different types of ionizing radiation through various materials. Alpha particles are stopped by a sheet of paper. Beta particles are stopped by a thin sheet of aluminum. Gamma rays and X-rays are stopped by a thick block of lead. Neutrons are stopped by a thick wall of concrete.</p> </div> <p>http://www.learnersonline.com/weekly/archive99/week39/</p> <p>Protective Measures:</p> <p>TIME: reduce the amount of time spent in a radiation area.</p> <p>DISTANCE: increase distance from a radiation source.</p> <p>SHIELDING: shield yourself from a radiation source</p> <p>PPE: Items like disposable gloves and coveralls can help reduce the spread of radioactive materials. Respirators (N95 or better) can help prevent inhaling radioactive particles.</p> <p>U.S. Occupational Annual Dose Limits*:</p> <table border="0"> <tr> <td>Whole body</td> <td>5 rem</td> </tr> <tr> <td>Hands, feet, and skin</td> <td>50 rem</td> </tr> <tr> <td>Lens of eye</td> <td>15 rem</td> </tr> </table> <p>*(100 rem = 1 Sievert or Sv)</p>	Whole body	5 rem	Hands, feet, and skin	50 rem	Lens of eye	15 rem	<p style="text-align: center;">Occupation: Laboratorian Scenario: Nuclear Explosion</p> <p>Although a Laboratorian may include a variety of professions (e.g., Chemist, Biologist, Lab technician, etc.), your potential for radiation exposure is expected to be similar in this scenario.</p> <p>Should I take Potassium Iodide (KI)?</p> <ul style="list-style-type: none"> The Food and Drug Administration recommends that KI be taken as soon as the radioactive cloud containing iodine from the explosion is close by Radioactive iodine present in the initial blast decays quickly, a single dose of KI may be all that is required. Local emergency management officials will tell people when to take KI It is not recommended that adults over 40 take KI because they have the smallest chance of developing thyroid cancer or disease, and they have a greater chance of having an allergic reaction to the high dose of iodine in KI. Taking KI will not protect you from other radioactive substances that may be present along with the radioactive iodine. (See the CDC Website for more information) <p>How can I protect myself and others from excessive radiation exposure?</p> <ul style="list-style-type: none"> If deployed, know the environment you are about to enter (radiation and safety hazards) Consult your chain of command to determine appropriate level of PPE Protective clothing protects you from contamination - not the radiation! Apply Time, Distance and Shielding Principles Wear radiation detection badges (dosimeters) Shower and change clothing before going home In the laboratory, know the radiation levels of biological or environmental samples to be analyzed Understand your laboratory safety procedures for handling radioactive samples <p>How will I monitor my radiation dose?</p> <ul style="list-style-type: none"> Through the use of field instruments or radiation badges Following the chain-of-command, contact the appropriate party: <ul style="list-style-type: none"> Site Health and Safety Officer Local hospital nuclear medicine or radiology department State Emergency Management Program Federal Radiological Monitoring and Assessment Center (FRMAC): (702) 295-1381. Return radiation badges according the instructions given to you. Know how to obtain your dose results <p>What do I do with any contaminated items?</p> <ul style="list-style-type: none"> Clothing, Linens, and Personal effects: Bag, Tag, and Isolate (potential evidence) or dispose in an appropriately labeled container Equipment: Detergent wash, if disposed then bag, tag, and isolate <p>Additional resources for radiation protection:</p> <ul style="list-style-type: none"> NRC FAQ about Emergency Response: http://www.nrc.gov/what-we-do/regulatory/emer-respfaq.html EPA Radiation: http://www.epa.gov/radiation/ <div data-bbox="1101 1745 1395 1818" data-label="Image"> <p>National Institute for Occupational Safety and Health</p> </div>
Whole body	5 rem						
Hands, feet, and skin	50 rem						
Lens of eye	15 rem						
<p>Further NIOSH Information: 1-800-35NIOASH 1-888-246-2675 CDC/EOC</p> <p>http://www.cdc.gov/</p>							

Appendix D

Focus Group Guides

- 1. General Public**
- 2. Professional Groups**

Nuclear Explosion Focus Group Guide – Public

Introduction

Hi, my name is «your name» and I work for «your university». I'd like to thank you for volunteering to help us. We are developing informational materials regarding possible emergency situations. We have asked you to come here today to think about these situations and look at some of our materials. We are very interested in your opinions. Please note that there are no right or wrong answers, only different ideas. So please be honest and share what you think. I am not an expert in these subjects and I am not the person making the materials — so please do not worry about hurting my feelings! Please note that we will provide materials at the end if you want information about specific topics that come up in the discussion. We will tape record this session to allow us to really pay attention to what you are saying and still have good notes. Nobody will listen to this tape except our staff and we will destroy it as soon as we have made a transcript and notes. Nobody's name will be used in either the tape recording or the transcript.

Are there any questions before we begin?

Icebreaker/introductions

Please tell your first name (only!) and one thing about yourself that you think people might find is surprising.

INTRODUCTION/INSTRUCTIONS: Let's begin. I am going to walk you through three parts of a made up story about what might happen if terrorist attack involving radiation took place right here in «location». There are three parts to the story. After each part of the story, we'll talk about your reactions and thoughts. I will read the story out loud as you follow along. Please remember that what I am telling you is made up. This is not happening now, and we hope it will never happen.

SCENARIO, PART I: FEDERAL WARNING:

You wake up about 7 a.m. on a Tuesday morning and turn on the local news to hear that President Bush has raised the Homeland Security Advisory System threat level to severe (red). The President and his advisors report that this change in the national threat level is based on knowledge of a credible threat that a terrorist group may be planning an attack in «geographic area». While the threat isn't specific regarding the type of attack, officials suspect that it may involve radiation or nuclear materials.

FOCUS GROUP GUIDE QUESTIONS:

1. Tell me how you would feel about this.
 - a. PROBE: What are your immediate concerns?
2. What would you want to know?
3. What would you do?
4. Where would you go for information?
 - a. PROBE: Why would you turn to these sources?
 - b. PROBE: What do you think the best source of information would be in the event of an attack?

SCENARIO, PART II: NEWS REPORT:

Over lunch, you turn on the radio and hear that there has been an explosion in «geographic area» and that radiation has been detected by initial emergency responders. Hundreds of people have been treated at the site and/or transported to local emergency rooms with injuries from the blast, and burns. People are being advised to “shelter in place” until more is known about whether radiation was involved.

FOCUS GROUP GUIDE QUESTIONS:

1. Tell me how you would feel about this.
 - a. PROBE: What are your immediate concerns?

2. What would you want to know?
3. What would you do?
4. Where would you turn for information?
 - a. PROBE: Why would you turn to these sources?
 - b. PROBE: What do you think the best source of information would be in the event of an attack?
5. Does the following information address any of your concerns?

EXCERPT FROM CDC MATERIALS:

Preparing for a Radiological Emergency

Your community should have a plan in place in case of a radiation emergency. Check with community leaders to learn more about the plan and possible evacuation routes. Check with your child's school, the nursing home of a family member, and your employer to see what their plans are for dealing with a radiation emergency. Develop your own family emergency plan so that every family member knows what to do. At home, put together an emergency kit that would be appropriate for any emergency. The kit should include the following items:

- A flashlight with extra batteries
- A portable radio with extra batteries
- Bottled water
- Canned and packaged food
- A hand-operated can opener
- A first-aid kit and essential prescription medications
- Personal items such as paper towels, garbage bags, and toilet paper

After a release of radioactive materials, local authorities will monitor the levels of radiation and determine what protective actions to take. The most appropriate action will depend on the situation. Tune to the local emergency response network or news station for information and instructions during any emergency. If a radiation emergency involves the release of large amounts of radioactive materials, you may be advised to "shelter in place," which means to stay in your home or office; or you may be advised to move to another location. If you are advised to shelter in place, you should do the following:

- Close and lock all doors and windows.
- Turn off fans, air conditioners, and forced-air heating units that bring in fresh air from the outside. Only use units to re-circulate air that is already in the building.
- Close fireplace dampers.
- If possible, bring pets inside.
- Move to an inner room or basement.
- Keep your radio tuned to the emergency response network or local news to find out what else you need to do.
- If you are advised to evacuate, follow the directions that your local officials provide. Leave the area as quickly and orderly as possible. In addition –
 - Take a flashlight, portable radio, batteries, first-aid kit, supply of sealed food and water, hand-operated can opener, essential medicines, and cash and credit cards.
 - Take pets only if you are using your own vehicle and going to a place you know will accept animals. Emergency vehicles and shelters usually will not accept animals.
- The safest place in your home during an emergency involving radioactive materials is a centrally located room or basement. This area should have as few windows as possible. The further your shelter is from windows, the safer you will be.
- If you are outside when the alert is given, try to remove clothing and shoes and place them in a plastic bag before entering the house. During severe weather, such as extreme cold, remove at least the outer

layer of clothes before entering the home to avoid bringing radioactive material into your shelter. Leave clothing and shoes outside. Shower and wash your body with soap and water. Removing clothing will eliminate 90% of radioactive contamination. By taking this simple step, you will reduce the time that you are exposed and also your risk of injury from the radiation.

- Before entering the shelter, turn off fans, air conditioners, and forced-air heating units that bring air in from the outside. Close and lock all windows and doors, and close fireplace dampers.
- When you move to your shelter, use duct tape and plastic sheeting to seal any doors, windows, or vents. After officials are sure the plume has passed over, however, you may wish to open up the windows to ventilate the area.
- Keep your radio tuned to an emergency response network at all times for updates on the situation. The announcers will provide information about when you may leave your shelter and whether you need to take other emergency measures.

FOCUS GROUP QUESTIONS ON CDC MATERIALS:

1. How believable is the information in this fact sheet?
 - a. PROBE: Why? Or, what makes you say that?
2. What, if anything, would make this information more believable?
3. Is there anything here that you think is not being disclosed?
4. How confident are you that the actions recommended in the fact sheet will keep you safe?
 - a. PROBE (if needed): Why or why not?
5. How confident are you that you can carry out these recommendations?
 - a. PROBE (if needed): Why or why not?
6. Do you have any recommendations to make these fact sheets better or more useful to you?

SCENARIO, PART III: ANNOUNCEMENT BY GOVERNMENT OFFICIAL:

About an hour later, when you are watching television coverage of the blast, you see a local government official issuing a statement. S/he confirms that a small nuclear explosion has gone off and that people in the area may have been exposed to radiation. Local health workers and emergency personnel are working to contain the problem by taking seriously injured persons to the hospitals and referring others who believe they might have been exposed to assessment centers near the hospitals, where they can be monitored and decontaminated if necessary. Residents who were not close to the bomb should listen for information about which way the plume is spreading and evacuate or shelter in place according to emergency officials' recommendations.

FOCUS GROUP GUIDE QUESTIONS:

1. Tell me how you would feel about this.
 - a. PROBE: Why do you feel the way you feel?
2. What would you want to know?
3. What would you do?
4. Where would you go for information?
 - a. PROBE: Why would you turn to these sources?
 - b. PROBE: What do you think the best source of information would be in the event of an attack?
5. Does the following information address any of your concerns?

EXCERPT FROM CDC MATERIALS:

Radiation Exposure and Contamination

Radioactive contamination occurs when radioactive material is deposited where it is not supposed to be. Air, water, surfaces, soil, plants, buildings, people, or animals may become contaminated when radioactive materials

are released into the environment. Radioactive materials could be released into the environment from a nuclear power plant accident (like the Chernobyl accident in 1986), from an atomic bomb explosion (like the bomb dropped on Hiroshima during World War II), from someone accidentally releasing the material, or from someone intentionally spreading radioactive material in an act of terrorism. Each of these instances could result in radioactive contamination, and the size of the area and number of people affected would vary depending on the event. For example, the Chernobyl nuclear power plant accident caused radioactive contamination that spread thousands of miles and affected hundreds of thousands of people.

When a person has been **exposed** to radiation, radiation has penetrated the body, but has not stayed inside the body. When a person has an x-ray, they have been exposed to radiation, but they have not been contaminated. To be **contaminated**, a person must have radioactive material on them (external contamination) or inside of their body (internal contamination).

Internal contamination occurs when people ingest (swallow) or inhale (breathe in) radioactive materials, or when radioactive materials enter their body through an open wound in the skin. Once inside the body, some radioactive materials may leave the body, usually through the urine or feces. Some of the radioactive materials may stay in the body and be deposited in different organs, depending on the type of radioactive material.

External contamination occurs when radioactive materials in the form of dust, powder, or liquid come in contact with people's skin, hair, or clothing. However, once a person is externally contaminated, they can become internally contaminated, as well. If the contamination is not removed from the skin quickly, dust, powder, or liquid may be accidentally ingested or inhaled, or liquid may be absorbed through the skin and enter the blood stream.

Although people who are internally contaminated cannot contaminate others just by being in close proximity, they can expose others to radiation. However, coming in contact with bodily fluids (like urine or blood) from someone who is internally contaminated may result in contamination, depending on the radioactive material involved.

People who are externally contaminated with radioactive dust, powder, or liquid may contaminate other people or surfaces when they come into contact with them. For instance, someone who has radioactive dust on their clothing may leave dust particles behind when he or she sits in a chair or hugs someone.

FOCUS GROUP GUIDE:

1. Is the information contained in the fact sheet helpful to you?
2. What questions do you have about what you've read?
3. Is there anything confusing in the materials?
4. Is there any information not contained in the fact sheet that should have been?
5. Do you have any recommendations to make these fact sheets better or more useful to you?

CLOSING COMMENTS:

This concludes our work for the day. Thank you again for volunteering to help us. Your comments have been extremely valuable. The information you have provided will help us develop better and more useful informational materials, and this, in turn, will contribute to improved emergency preparedness. Meanwhile, if anyone wants additional information about some of the specific topics that came up during today's discussion, we have fact sheets and other information available on the table outside «**or other location**.» Thanks again!

Nuclear Explosion Focus Group Guide - Professional Groups

Introduction

Hi, my name is «your name» and I work for «your university». I'd like to thank you for volunteering to help us. We are developing informational materials regarding possible emergency situations. We have asked you to come here today to think about these situations and look at some of our materials. We are very interested in your opinions. Please note that there are no right or wrong answers, only different ideas. So please be honest and share what you think. I am not an expert in these subjects and I am not the person making the materials — so please do not worry about hurting my feelings! Please note that we will provide materials at the end if you want information about specific topics that come up in the discussion. We will tape record this session to allow us to really pay attention to what you are saying and still have good notes. Nobody will listen to this tape except our staff and we will destroy it as soon as we have made a transcript and notes. Nobody's name will be used in either the tape recording or the transcript.

Are there any questions before we begin?

Icebreaker/introductions

Please tell your first name (only!) and one thing about yourself that you think people might find is surprising.

INSTRUCTIONS: Let's begin. I am going to walk you through three parts of a potential scenario, one part at a time. After each part of the scenario, we'll talk about your reactions and thoughts. I will read the scenario out loud as you follow along.

SCENARIO, PART I: FEDERAL WARNING:

You wake up about 7 a.m. on a Tuesday morning and turn on the local news to hear that President Bush has raised the Homeland Security Advisory System threat level to severe (red). The President and his advisors report that this change in the national threat level is based on knowledge of a credible threat that a terrorist group may be planning an attack in «geographic area». While the threat isn't specific regarding the type of attack, officials suspect that it may involve radiation or nuclear materials.

FOCUS GROUP GUIDE QUESTIONS:

5. Please tell me how you would feel about this news. What are your immediate concerns?
6. In your *professional* capacity, tell me what you would be most concerned about when hearing this news.
7. What would you do?
8. What would you want to know?
9. Where would you go for information?

SCENARIO, PART II: NEWS REPORT:

Over lunch, you turn on the radio and hear that there has been an explosion in «geographic area» and that radiation has been detected by initial emergency responders. Hundreds of people have been treated at the site and/or transported to local emergency rooms with injuries from the blast, and burns. People are being advised to “shelter in place” until more is known about whether radiation was involved.

FOCUS GROUP GUIDE QUESTIONS:

6. Please tell me how you would feel about this news. What are your immediate concerns?
7. In your *professional* capacity, tell me what you would be most concerned about when hearing this news?
8. What would you do?

9. What would you want to know?
10. Where would you turn for information?
11. What kinds of information do you think you will need to know to respond to questions from the public?
12. Where would you turn to find the information you would need to provide to the public?

SCENARIO, PART III: ANNOUNCEMENT BY GOVERNMENT OFFICIAL:

About an hour later, when you are watching television coverage of the blast, you see a local government official issuing a statement. S/he confirms that an improvised nuclear device (a small fission device) has been detonated and that people in the area may have been exposed to radiation. Local health workers and emergency personnel are working to contain the problem by taking seriously injured persons to the hospitals and referring others who believe they might have been exposed to assessment centers near the hospitals, where they can be monitored and decontaminated if necessary. Residents who were not close to the bomb should listen for information about which way the plume is spreading and evacuate or shelter in place according to emergency officials' recommendations.

FOCUS GROUP GUIDE QUESTIONS:

6. Please tell me how you would feel about this. What are your immediate concerns?
7. In your *professional* capacity, tell me what you would be most concerned about when hearing this news?
8. What would you want to know?
9. What would you do?
10. Where would you go for information?
11. Does the following information address any of your concerns?

«Introduce NIOSH materials»

12. Are the fact sheets useful?
 - a. PROBE: Would the fact sheets be something you'd find helpful before, during or after a nuclear terrorist incident?
13. Do the fact sheets include the kind of information that would help you to protect yourself in the aftermath of a nuclear terrorist attack?
14. Is there anything confusing in the materials?
15. What questions do you have about what you've read?
16. Is there anything that surprised you or contradicted what you've read previously?
17. Is there anything you'd say differently?
18. Is there anything that should be added?

CLOSING COMMENTS:

This concludes our work for the day. Thank you again for volunteering to help us. Your comments have been extremely valuable. The information you have provided will help us develop better and more useful informational materials, and this, in turn, will contribute to improved emergency preparedness. Meanwhile, if anyone wants additional information about some of the specific topics that came up during today's discussion, we have fact sheets and other information available on the table outside «or other location.» Thanks again!

Appendix E

Summary Reports (Toplines) for “Radiation” Focus Groups

General Public

African-American

Urban, 2 focus groups

Rural, 1 focus group

White

Urban, 2 focus groups

Rural, 1 focus group

Hispanic/Latino

Urban, 2 focus groups

Rural, 1 focus groups

Asian

Urban, 1 focus group

English as a Second Language

1 focus group

Native American

1 focus group

Professional Groups

EMS, Police, Fire

2 focus groups

Hospital Emergency Dept.

1 focus group

Public Health

1 focus group

Total Radiation Focus

Groups: 16

Urban African American Focus Group- Southeast UAB

Scenario, Part I: Response to threatened attack

How do participants respond emotionally to a threat of an attack in the southeast involving radiation or nuclear materials?

- Religious
 - “Prayerful, I would probably be praying, Lord have mercy.”
 - “I would definitely pray.”
- Seek more information
 - “I think it would be enough to keep me in the house the rest of the day. I think I would stay home and watch CNN.”
- Positive belief: “Obviously it is from a pretty good source if they upped the level to red, it must not be any kind of joke or anything to be taken lightly, so I wouldn’t take it lightly myself.”
- Flight response
 - “Well thinking about the radiation and nuclear materials, it would make me want to move further, find a better area temporarily to secure myself and family.”

What types of information do participants want to know in this situation?

- “What caused it, why, what is the reason behind it?” “How long is it going to last?” “Where is the shelters?”
- “I would like to see some evidence stating that there was going to be an attack, because there have been false alarms.”

What sorts of things do participants do when hearing this type of information?

- “I would listen for more information, watch the news more, and talk to other people who may have heard about it.”
- Glued to the TV
- Call family members.

Where do participants seek information in the event of a threatened attack?

- CNN
- Radio
- Phone calling family members.
- Internet
- Local news channels

Scenario, Part II:

Emotionally you feel what?

- Survival
- God
- Overwhelmed

- Concerned about the injured
- Scared

What type things would you want to know?

- Severity of blast
- Weather situation
 - Rainy Day could spread it [radiation] a lot faster
 - “I think heat would have a major effect on radiation

What are some of the things you would do?

- Panic
- Rush to safety

Where would you go to get information?

- Local news
- Radio
- Police department
- National Guard

Materials:

What do you think of this sheet?

- It’s good, it’s interesting
- It makes you think that , to just try and use common sense.

What are the sheets major points?

- How to be prepared to keep radiation out of your home.
- “made sure to tell you to turn off all of the fans and air conditioners and anything bringing fresh air into the house.”

How believable is this fact sheet?

- “They’re not going to believe it until they see it.” “I don’t think some people will take it seriously.”
- “I think it is believable”

Any information being kept from you?

- “The masks, and that body suit.” [Vital protective suits] “We need that protection gear.”
- “We need to know how we are to be dressed for this.”
- Concerns for decontaminating clothing

How confident are you that you can do the things that are outlined in this fact sheet?

- Not very confident
 - “I don’t know”
 - “You lose control”
 - “You go blank”

Scenario, part III:

Tell me how you feel?

- Upset “I would be upset” “It would upset me really, because I would be concerned about the people that would get to me.”
- Concern about family members
- Scared
- Think about 9/11
- Flight instinct

What information would you want to know?

- Evacuation procedures
- Places of refuge
- “Where are assessment centers”
- “What speed it is coming, the rate that it is coming”

Where would you go to get information?

- News, local

Fact Sheet:

Generally, what do you think of this fact sheet?

- Scared
 - No physical signs of exposure
- “I found it to be informative.”

How do you find it helpful to you?

- “it breaks it down to you.”
- “I think it definitely raises awareness”

Anything confusing?

- “No”
- “Self explanatory”

Do you think any information was withheld?

- No
- Protective gear
- Home treatments

Any recommendations to make it more useful to you?

- Add protective gear

Interesting Comments:

“That word *plume*, what is that?”

“I’m shocked by that “which way the plume is spreading.”

PRE-EVENT MESSAGE DEVELOPMENT PROJECT

Summary report of qualitative analysis of focus group

Population: Rural African American

Agent: Radiation

Region: Southeast

Focus group date: August 8, 2003

Prepared by the
University of Alabama at Birmingham School of Public Health (UAB)
Report Date: August 28, 2003

This group was the largest of our nuclear groups. This group was very inquisitive and had very detailed concerns. The participants were outspoken and interactive, with exception of one more senior woman, whom we were later told cannot read.

GROUP CHARACTERISTICS

Characteristic	Category	N (%)	Mean
Age	Missing		
Sex	Male Female Missing		
Education	Less than high school Some high school High school diploma or GED Some college College degree Graduate degree Missing		
Ethnicity/race	African American/Black American Indian/Alaska Native Caucasian/White Other Other (specified) Missing	10 (100%)	
Language in home	English Other Other (specified) Missing		
Marital status	Single Married or living with partner Divorced or separated Widowed Missing		
Children	Yes No Missing		
Employment	Yes No Missing		
Family income	Less than \$10,000 \$10,000-\$19,999 \$20,000-\$29,999 \$30,000-\$39,999 \$40,000-\$49,999 \$50,000-\$59,999 \$60,000-\$69,999 \$70,000-\$79,999 \$80,000-\$89,999 \$90,000-\$99,999 \$100,000 or more Missing		

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- ❖ On of the most striking themes through out this focus group session, when asked about feelings following the reading of Scenario 1, was the participants' belief that 'they would not tell you' (pg3, P6) and 'they may not be telling the truth' (pg.4, P8). One felt that if they were to 'tell the truth and stop holding everything back 'till something happened, it be alright. They hold a lot of stuff back' (pg7, P5). When asked who is felt to hold information back, the President and Vice-President were mentioned (p7, P5).
- ❖ Participants felt that the previous acts of terror could have been prevented:
 - "If they had of been truthful, they probably could have stopped, they ought to let the people know, they probably could have stopped that first bombing. But they knowed something about it, just ignored it " (Pg.7, P5).
 - "I understand that they knew a lot of things prior to some of the other incidents and you know, they didn't divulge' (Pg. 3, P6).
- ❖ Participants had many questions for each other regarding specific action steps and sources of information.
- ❖ Top concerns involved the preparedness of County.
- ❖ Spirituality, or prayer, was mentioned throughout the discussion as something participants would be doing in response to scenario rollouts: 'I would just pray' (Pg. 6, P9).

Results of qualitative analysis, by conceptual domain:

Pre-event knowledge

What is participants' current awareness of the CAS, precautions, and different threats?

This topic was not addressed in this particular focus group guide. However, after reading Scenario 1, one participant did mention the CAS system and demonstrated knowledge of the levels ('raised to orange'): 'I base my answer on the treats, the previous threats. And even though I was not completely convinced that it was, uh, a true threat, I knew that there was a possibility that it was, but for some reason I didn't become anxious....I didn't become fearful of it. Now I don't know whether that's me being naïve or what, but I did not get upset over the fact that it was...the threat level has been raised to, I believe it was orange? We have gone through that' (Pgs 4-5, P9).

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- ❖ Participants cited fear and panic as initial responses (Pg. 3). Discussion focused on the belief that "I am not going to know" (pg.4, P6) due to withheld information. Many thereafter discussed prayer and hoping for the best.
- ❖ As scenarios progressed, participants continued to express panic (Pg. 31, P1), but also a sense of urgency to react (Pg.30, P 10).
- ❖ Probably the most disturbing reaction was that of one participant as scenarios progressed: 'At this time, I think I'm dead' (Pg. 31, P8) because she didn't know 'whether it liquid, um, gas or what, so I'm dead' (Pg. 32).
- ❖ Some immediately discussed action steps such as warning others (Pg. 6, P10, P7) and thinking about "what I could put together in a local area where I could have what I need/ (Pg. 8, P7).
- ❖ Early in the discussion, participants mentioned the lack of readiness in County and lack of protection. These continued throughout the discussion:
 - 'I would really be devastated because I wouldn't have any protection. You know, we don't have anything that would protect us from such an attack' (Pg. 5-6, P6).

- 'I have problems with whether or not we are adequately prepared for it in County' (Pg. 21, P9).
- 'If we no more prepared in the public places than what we are, I don't for them to tell me to evacuate my house, they must have somewhere for me to go' (Pg. 31, P6).

What do participants want to know in the event of an emergency?

- ❖ Many wanted to know if it was a terrorist attack (Pg. 14, P6) and if we would expect another one to follow (Pg. 14, P7).
- ❖ In an emergency, participants expressed a desire to know 'what they're doing and how to get in touch with somebody to help [me]' (Pg. 32).
- ❖ Participants wanted to know where shelters were located (Pg. 33, P1).
- ❖ Participants expressed that 'wind direction would be very important' (Pg.17, P6) and that they would want to know 'how far it's going, I would basically be looking for just everything trying to get all the information I possibly could. Know when I could come back out, when can I come out, how long would I hve to stay in' (Pg. 16, P1).
- ❖ 'I would like to know who is specific that we could...would need to contact, specifically' (Pg. 28).

Where do participants seek information in the event of an emergency and why?

- ❖ Some participants stated they did not know where to go for information (Pg. 8, P7).
- ❖ One person said Internet (Pg. 8, P1). Early on her sites were not specific, "I would just go and ...start searching and see what all I would have to do. However, as scenarios progressed, she continued to use the interned as a source of information mentioning public health and emergency management websites (Pg. 16, P1)
- ❖ Media was mentioned, radio (Pg. 11, P8) and TV (Pg. 9, P10). Though there were some who preferred one source to the other (or both, Pg. 16, P9):
 - '...television seems to be our best source (Pg. 34, P9)
 - 'I would rely on my radio' (Pg. 14).
- ❖ Sheriff's Department (Pg. 9).
- ❖ However, it was stated and generally agreed upon that 'you really could not be calling the television station , the radio station, or the sheriff's office 'cause those people would not have time to answer those phones and give out information, so you know, just to sit and listen an watch would probably be your best out.' (Pg. 36, P6.)

What are participants' perceptions about government and preparedness?

- ❖ Negative impressions about national government. Participants felt information would be and had been withheld.
- ❖ County Commissioners were cited people who were 'not in a position to monitor' (unidentified female, Pg. 29) but 'in a position to get a program set in order to start working on safety security' (Pg. 29, P9).
- ❖ County was seen as completely unprepared by participants.

What are participants' perceptions about the role of the media?

- ❖ The overall perception of the media was positive. The media was perceived as: '...a truthful source to go to' (Pg. 9, P10).
- ❖ The media was seen as the best source of information. "They are often giving these uh, warnings and they run through these practices, so I would think that they would kind of be up on, uh, whatever is happening. And I would just stay tuned to any media that I could get access to' (Pg. 19, P9).
- ❖ Both national and local news was mentioned, with discussion about which is best in the situation described in Scenario 1 (Pg. 10). It was frequently mentioned that local news would be better than national news as scenarios progressed because they could 'pinpoint in the direction that the radiation is traveling' (Pg. 15).

- ❖ The participants believed the media “would do us like they do when severe weather, I believe they would pinpoint the area in which the radiation was going (Pg. 15 & Pg.18, P10).

What are other participants’ perceptions of interest?

- ❖ Participants frequently mentioned basements as a place they would go, ‘my security spot’ (Pg. 9, P9, Pg. 13, P10). There was concern because not everyone had basements (Pg. 24) and houses may not be airtight (Pg. 23).
- ❖ Participants demonstrated forethought and planning in information seeking behaviors. For instance:
 - ‘Sticking with radio is a good idea because sometimes TV can sign off, and you can still have access to the news by using the radio’ (Pg. 11, P10).
 - ‘What if your computer is down?’ (Pg. 16, P10).
 - ‘I think we need to be considering a battery radio’ (Pg. 17, P7)

Materials pre-test response

How well do preliminary message materials address information needs?

- ❖ Again, the lack of preparedness in County had an impact on the materials: ‘This is good information, but it does not fit our local situation’ (Pg. 21, P9).
- ❖ It was said that the second fact sheet ‘states the problem, but it does not give a solution to it’ (Pg. 38, P9).
- ❖ Most felt the information would ‘help’ and that ‘you’d last a while’ (Pg. 23).

What are unmet information needs?

- ❖ Participants wondered “how are we going to know that we are exposed to radiation, is there a, is it a, what is it, is it a powder?” (Pg. 39, P10).
- ❖ Participants wanted to know ‘how could we get protective gear for each citizen?’ (Pg. 42).
- ❖ ‘What are some side effects that a person might receive from being contaminated?’ (Pg. 42)
- ❖ Participants were left wondering where to go for safety and the locations of shelters.

How do participants respond emotionally to preliminary message materials?

- ❖ It was generally felt that the information was ‘comprehensive, inclusive and conclusive’ (Pg. 20), ‘very informative, it gives you all the information you need’ (Pg. 20).
- ❖ Participants felt they should ‘take heed of what it is and get prepared’ (Pg. 20, P7)...’cause we got to know this could attack, that we should be prepared (P2).
- ❖ The second fact sheet ‘makes things a little more frightening’ (Pg. 37, P6). ‘Because it seems as if it just doesn’t take much of anything to become, you now, the air or the water, or whatever, become contaminated. And we have some of all these things around us that could disperse radiation’ (Pg. 37).
- ❖ Overall, the second fact sheet did not make the participants ‘feel secure,’ (Pg. 41) it made them feel ‘anxious’ (Pg. 41).

How believable are the preliminary message materials?

- ❖ “I believe we should have the stuff in here (Pg. 21) but it was not seen to fit the local situation.

How successful are materials in fostering self-efficacy?

- ❖ Participants wanted to know ‘how do we go about getting our local officials to make the necessary preparations for emergency?’ (Pg. 21, P9).
- ❖ When asked how confident they were that the information could protect them, it was stated that ‘it couldn’t, a lot of steps have to be taken for this to be effective in County (Pg. 21)
- ❖ All were said to ‘feel that way’ (Pg. 22)

- ❖ One participant really did not like the portion of the fact sheet suggesting people take cash and credit cards (Pg. 24) and believed she would ‘be leaving it, if it’s going to cause me to die from radiation’ (Pg. 25)

What are participants’ recommendations for improving the materials?

- ❖ Addition of side effects to materials because “we could go a long time by not knowing any of the side effects of anything that we may, could react earlier if they would occur and we know what we are looking for’ (Pg. 42, P10).
- ❖ One wanted to know where and how to get protective gear (Pg. 42).
- ❖ It was stated that the statements about the credit cards and cash be left out because they found it confusing, but another disagreed. (Pg. 25).

What are other participants’ recommendations for preparedness?

- ❖ Much discussion was had about the local situation. Many participants liked how nursing homes and schools were addressed (Pg 20, P2) ‘because sometimes we may leave those out, the nursing homes in particular.’ County commissioners were mentioned as people who may be able to be ‘in a position to get a program set in order to start working on safety security’ (Pg. 29, P9).
- ❖ Discussions were held on how media would track radiation (Pg. 15 & Pg.18, P10) similar to tracking severe weather.
- ❖ Questions were asked and answered regarding how citizens would be warned of an emergency (Pg.35).
- ❖ ‘This today is making me very conscious of the fact that I need to get my preparation spot ready’ (Pg. 14, P9).

PRE-EVENT MESSAGE DEVELOPMENT PROJECT

Summary report of qualitative analysis of focus group

Population: Urban African American

Agent: Nuclear

Region: Midwest

Focus group date: July 21, 2003

Intercoder reliability: 72%

Prepared by the Health Communication Research Laboratory

Saint Louis University School of Public Health

Report date: August 22, 2003

GROUP CHARACTERISTICS

What are the characteristics of the group?

Demographics of the group are presented in Table 1.

Table 1. Group demographics

Characteristic	Category	N (%)	Mean/SD
Age	Missing	2 (25.0)	34.67/8.02
Sex	Male	1 (12.5)	
	Female	7 (87.5)	
	Missing	0	
Education	Less than high school	0	
	Some high school	1 (12.5)	
	High school diploma or GED	0	
	Some college	7 (87.5)	
	College degree	0	
	Graduate degree	0	
	Missing	0	
Ethnicity/race	African American/Black	7 (87.5)	
	American Indian/Alaska Native	1 (12.5)	
	Caucasian/White	0	
	Other	0	
	Other (specified)	--	
	Missing	0	
Language in home	English	7 (87.5)	
	Other	1 (12.5)	
	Other (specified)	not specified	
	Missing	0	
Marital status	Single	5 (62.5)	
	Married or living with partner	1 (12.5)	
	Divorced or separated	0	
	Widowed	2 (25.0)	
	Missing	0	
Children	Yes	5 (62.5)	
	No	3 (37.5)	
	Missing	0	
Employment	Yes	8 (100.0)	
	No	0	
	Missing	0	
Family income	Less than \$10,000	0	
	\$10,000-\$19,999	4 (50.0)	*
	\$20,000-\$29,999	1 (12.5)	*
	\$30,000-\$39,999	0	
	\$40,000-\$49,999	2 (25.0)	
	\$50,000-\$59,999	0	
	\$60,000-\$69,999	0	
	\$70,000-\$79,999	0	
	\$80,000-\$89,999	0	
	\$90,000-\$99,999	0	
	\$100,000 or more	1 (12.5)	
	Missing	0	

* = median

The 8 participants in the focus group ranged from 21 to 44 years of age, with an average age of 34.67 (SD = 8.02). Seven females participated (87.5%) and there was 1 male (12.5%). Most (7; 87.5%) had some college and 1 (12.5%) had some high school. Most (7; 87.5%) were African American and 1 (12.5%) was American

Indian or Alaskan Native. Most (7; 87.5%) reported that their main language spoken at home was English, while 1 (12.5%) reported an other language (not specified). Five (62.5%) were single, 1 (12.5%) was married or living with a partner, and 2 (25.0%) were widowed. Most (5, 62.5%) had children, while 3 (37.5%) did not. All (8; 100%) were employed. The median family income was between the \$10,000-19,999 and \$20,000-29,999 ranges.

The focus group was conducted with employees at a day care center underneath a church. A playing child, ringing phones, and a preaching voice from upstairs distracted the participants throughout the focus group. The women looked tired after a day of work; they began yawning and appeared distracted towards the end of the session.

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- In response to the hypothetical scenario, participants indicated concern about friends and family; they would look for specific information about what to do to protect themselves and family members, how to recognize signs and symptoms of radiation, and what to do to decontaminate themselves and others.
- They indicated that they would turn to the media and interpersonal contacts for information.
- In response to the fact sheets, participants indicated that they felt the materials answered their concerns. However, they went on to report a variety of unanswered questions and to identify contradictory and confusing passages.

Results of qualitative analysis, by conceptual domain:

Pre-event knowledge

What is participants' current awareness of the CAS, precautions, and different threats?

- Participants' showed evidence of some knowledge of CAS: indicating awareness of alert colors and information on the local news.
- Nuclear guide did not include other questions recording precautions and other threats.

P6, pg.2: It's warning that comes over the news briefing... that you see come over your local news. You might have a reading on the screen on the television.

P5, pg.2: Red, orange.

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- Participants indicated that they would be frightened in the event of a threatened attack. Specifically, they would be concerned about the uncertainty associated with a warning, and about the safety of their family, pets, and others in the area.
- One participant indicated some relief at the news that they were not immediately threatened in later parts of the scenario.

P3, pg.2: Scared. What's going to happen?

P2 and P1, pg.4: [Immediate concern:] Family.

P4, pg.9: I gotta question about the pets. Why...it's a pet. A pet can be affected just like me. They tell you if you go to a shelter, don't ...[??] the shelter won't take your pet. Only take your pet unless you're going somewhere you know they're going to take your pet. But that's...I understand but at the same time I want to take my animals too. I don't want to leave them. I don't want them to die.

What do participants want to know in the event of an emergency?

- What is going to happen.
- What precautions to take.
- What to do if exposed.
- Geographic location of threat.
- Long-term threat to environment and family, and duration of threat.
- What type of radiation, and other details regarding the nature of the threat: potential damage to people and environment.
- Potential threat of exposed individuals contaminating others.
- Whether hospitals are prepared for this type of emergency.

P6, pg.2: [Want to know] what precautions to take.

P2, pg.3: What area is dangerous. Where the fallout shelters are, if there are any.

P4, pg.4: What type of radiation, what kind of area does it cover? Because if it was dropped in a site that doesn't necessarily mean that it can't travel. What's the radius of it?

P1, pg.5: ...As far as what kind because radiation can contaminate as far as if you come in contact with another person.

P6, pg.13: Now with me maybe being in the area, how can you tell me that my intake level wasn't as prevalent as her intake? I would go to the hospital. I wouldn't go to some shelter to be looked over. See what I'm saying? I should have an option. Don't tell me you don't look like...you don't know. I want to go to a hospital. I don't want to go to a shelter.

Where do participants seek information in the event of an emergency and why?

- Participants indicated they would seek information from the TV and radio news because they are the fastest and up to date.
- One participant noted that battery-powered radio would work in the event of a power outage.
- Other participants indicated that they would seek information about family using the telephone.
- Calling friends and family by telephone or cell phone.

P5, pg.3: [I would turn to radio and TV] because they are always up to date.

P2, pg.3: Because it's the fastest way of communication.

P4, pg.3: Radio because if someone attacks, what if the electricity goes out or anything like that? You can use the radio by batteries, you know like when a tornado comes you always use the radio.

P6, pg.14: For information I would be calling around to see what people...[??] I would call my husband if he wasn't at home. My mom and my dad.

What are participants' perceptions about government and preparedness?

The discussion guide for this topic did not inquire about confidence in government.

What are participants' perceptions about the role of the media?

There were no comments regarding media apart from those noted above, under the topic where participants seek information and why.

What are other participants' perceptions of interest?

None.

Materials pre-test response

How well do preliminary message materials address information needs?

- Participants agreed that the fact sheets were very informative, especially about what to do in the event of an emergency, or if they were exposed to radiation.
- However, participants felt confused by some details: distinguishing between contamination and exposure, and using the fan indoors.

P2, pg.6: It tells you exactly some of the things...some things that came to my mind before, radio, batteries, things that you stock up on, maybe bottled water and things like that. All of these things come to mind when you read something like this to make sure you have these things in place. Locate your family. Turn off the air conditioning. Cut off ventilation and things that are coming in from the outside. Be sure that those things are taken care of. Make sure the air is circulating in the room, which I guess means like with a fan or something that you have in the house.

P6, pg.7: It doesn't tell you to immediately go to the hospital if you are out in the midst. The only thing it does tell you is to take off your outer clothes and then go in and wash your body. If you are already contaminated what good is that going to do you? If you take off your clothes you're still contaminated with it.

What are unmet information needs?

- There were a number of unanswered questions.
- Desired particulars about contamination: how taking off clothes if contaminated will make a difference; how to help other people who are exposed; how you would know if you had been exposed; when to seek medical attention.
- Desired particulars about radiation: whether radiation sickness is communicable; characteristics of radiation (can you see or smell it?); how the plume moves – how long it would take to reach different areas.
- Other unmet topics: contacting family in an emergency; where exposed people should go; what to do with pets; why lock the doors; why turn off fans indoors; are unborn children at risk.

P3, pg.6: It don't tell whether you're away from your family, if you and your family are apart, how you contact your family members to see if everyone is alright or if they are in a safe place. How can you contact them in the event of something like this?

P6, pg.7: And also it don't tell you if it can be spread from one person to another. It doesn't say that. It doesn't say if it has an odor or not or if it can be seen.

P1: My questions is what to do. How do you help the next person?

P2, pg.9: And because they didn't give us a specific place to go except the basement....[???]. I would feel a little uncomfortable not knowing. This doesn't say go xxx miles or which hospital is handling these radiation patients or whatever. It doesn't say...

P1, pg.9: I would think for example if you are driving in a car with the windows up and you smell something even if you have the vents closed, you can smell it until you pass through it or whatever. It's not 100%. [???].

P6, pg.9: You also have to remember if you are underground in a secured building, anything that comes in is bringing something with them. So there is always going to be some type of ventilation coming in. So you got to go through that regardless. So whatever you bring with you that's in there too. So it's still coming in. There's nothing you're going through especially in the homes that's going to seal out, suck up everything out and allow you to step over to the next dimension. There's nothing like that. No space capsule or spacesuit, not at home, not at school, not at church.

P3, pg.9: It also don't tell places where you can go for people that are affected by the radiation. Where can those people go to be quarantined, not quarantined but isolated?

P4, pg.9: I gotta question about the pets. Why...it's a pet. A pet can be affected just like me. They tell you if you go to a shelter, don't ...[???] the shelter won't take your pet. Only take your pet unless you're going somewhere you know they're going to take your pet. But that's....I understand but at the same time I want to take my animals too. I don't want to leave them. I don't want them to die.

P5, pg.9: And it doesn't tell you if you are contaminated it's only physical signs. And contaminated...it talked about washing your body and what about your hair and stuff like that?

P3, pg.16: They repeated themselves about contamination and the exposure to others. The second to the last paragraph – all the people who are internally contaminated cannot contaminate others just by being in close proximity. They can expose us to radiation. That's kind of confusing. Then it says however coming into contact with bodily fluids like urine and blood from someone who is internally contaminated may result in contamination depending on the radioactive materials involved. So you know it is saying some things over again. It's clear but you keep repeating yourself. Then you are saying you won't get exposed then you can get exposed. So it's not clear.

P5, pg.16: I'm just wondering at what point do they tell you to go to the doctor?

P4, pg.16: What do you do with the information? What do you do as far as getting medical attention?

How do participants respond emotionally to preliminary message materials?

- Some participants expressed discomfort at not knowing certain details (such as where exposed individuals should go), and relief at knowing other details (such as the transience of contamination).

P2, pg.9: And because they didn't give us a specific place to go except the basement....[???]. I would feel a little uncomfortable not knowing. This doesn't say go xxx miles or which hospital is handling these radiation patients or whatever. It doesn't say...

P3, pg.15: Oh and also like if you have the material on your skin it says that some radiation goes through the body. You will be contaminated but it will also leave the body. That's good to know.

P2, pg.15: It let's you know the amounts and dosages that radiation is not as lethal or dangerous when you're first reading this. [???] I guess it's the amount of dosage that you get and the type of radiation. It kind of clarifies some of the things that....it takes out some of the initial scare.

How credible are the preliminary message materials?

- Participants found the information to be believable on the whole.

P4, pg.7: I mean some of the stuff that's in here, like for a tornado, some of this stuff is the same thing they tell you to do for emergencies. So it's believable.

P6, pg.8: It makes sense.

P4, pg.8: It's like other emergencies.

P6, pg.8: It's not something you've never heard before. I just, it's in black and white, you heard it through the media, you read it in the newspapers. So it's not like we have not yet been warned about it or what to do about it if something does happen. So that's why you can use this as a reference guide. For someone that just don't know, this could be some literature you can give to a person that just don't know what to do at all and at least they will know.

How successful are materials in fostering self-efficacy?

- Participants recognized that in the case of radiation, precautions may not be foolproof or failsafe.
- There was some debate among participants about willingness to carry out the recommendation to remove clothes.

P5, pg.8: I just don't think that getting inside your house with this radiation...I just don't think the inside of your house is going to keep you from it.

P6, pg.9: I think it will just keep you safe until a certain degree. Nothing is definite, that's for sure. But what little bit that you can do to survive, you need to strive for that.

P1, pg.9: I would think for example if you are driving in a car with the windows up and you smell something even if you have the vents closed, you can smell it until you pass through it or whatever. It's not 100%. [???].

P6, pg.9: You also have to remember if you are underground in a secured building, anything that comes in is bringing something with them. So there is always going to be some type of ventilation coming in. So you got to go through that regardless. So whatever you bring with you that's in there too. So it's still coming in. There's nothing you're going through especially in the homes that's going to seal out, suck up everything out and allow you to step over to the next dimension. There's nothing like that. No space capsule or spacesuit, not at home, not at school, not at church.

P5, pg.9: I'm not going to take my clothes off outside. I'm not going to do that.

P2, pg.10: If I'm contaminated anyway, I'm going to do whatever I can to try to keep myself as safe as I can. And if that is one of the stipulations, taking off your clothes on the outside and going inside and shower, shampoo and all that, then I'm going to do it. I'm going to do everything I can to take precautions whether it saves my life or not. To know that I have done the best that I can do, that's as much...

What are participants' recommendations for improving the materials?

- One participant recommended adding references to the information sheets, or some indication of the source.
- Other participants requested points of clarification, identified above.

What are other participants' recommendations for preparedness?

- Participants noted the need for available precautions such as protective "bubble" suits.

UCLA Focus Group #10: Topline Report

Agent: *Radiation*
Population: *White Urban*

Demographics

Of the 11 participants in this group, all 11 completed demographic forms. This demographic summary is based on the information provided by the group. In general, this group can be characterized as:

- mostly White
- English speaking
- predominantly female
- almost all parents of elementary school children
- highly educated – 82% had college or graduate degrees
- high income - almost half the group reported an annual family income of \$100,000 or more

Gender, age, marital status and children: The group was almost entirely female. Only one of the eleven participants was male. Participants ranged in age from 28 to 46 years old, with the mean age of the group being 36 years. Approximately 82% of the focus group participants reported being married or living with a partner. Two participants were single. Nine participants, 82% of the group, said that they have children. All nine of these participants have children of elementary school age.

Ethnicity and language: Eight participants in the group, approximately 73%, identified their ethnicity as Caucasian/White. The other three participants were: 1) American Indian/Alaska Native, 2) Asian/Pacific Islander, and 3) Hispanic/White. All participants reported English as their primary language.

Education, occupation and income: Education level for individuals in the group ranged from completing some college to having completed a graduate degree (see Table 1). Approximately 82% percent reported having completed a college or graduate degree. Seven participants, 64% of the group, reported currently being employed. Five of the participants reported being homemakers/mothers. Three were teachers. Other occupations given included: marketing, information technology manager, and legal secretary. None of the participants were health care workers. The median family income category for the group was \$90,000-\$99,999 per year. Five participants, almost half of the group, reported \$100,000 or more in family income for the year 2002 (see Table 2).

TABLE 1: Highest level school completed (n=11)

	<u>No.</u>	<u>Percent</u>
Less than high school	-	-
Some high school	-	-
High school diploma or GED	-	-
Some college	2	18%
College degree	6	55%
Graduate degree	<u>3</u>	27%
Total	11	
<i>Agent: Radiological/nuclear</i>		
<i>Target group: White urban</i>		

TABLE 2: Family income in the year 2002 (n=11)

	<u>No.</u>	<u>Percent</u>
Less than \$10,000	-	-
\$10,000 - \$19,999	-	-
\$20,000 - \$29,999	-	-
\$30,000 - \$39,999	-	-
\$40,000 - \$49,999	2	18%
\$50,000 - \$59,999	1	9%
\$60,000 - \$69,999	1	9%
\$70,000 - \$79,999	-	-
\$80,000 - \$89,999	-	-
\$90,000 - \$99,999	2	18%
\$100,000 or more	<u>5</u>	46%
Total	1	
<i>Agent: Radiological/nuclear</i>		
<i>Target group: White urban</i>		

Overview

This focus group was composed of teachers, administrators, and parents at an elementary school. The mood was convivial, and all participants were previously acquainted. The focus was on the school setting, and concerns were distinctly centered around children. Most of the conversation was couched in existing school plans and policies.

Pre-Event Knowledge

Focus group participants were familiar with the color alert system. They agreed that the system's main failing is that it does not tell people "what to do," and is thus not particularly useful. Conversation surrounding emergency preparedness and the definitions of different threats was limited.

- "I think that the government, you know when they would do that threat level. . . I mean, what did that mean? [There is no] communication about what each threat level is."
- "[The color alert system] is to notify your sheriffs and your fire and your police in your area."
- "There has been little to no information given to the public about how to handle [a threat], regardless if whether there is a threat at this time or not. Whether if we are in yellow, orange, pink, purple red, whatever. Nothing has specifically been said to us."

Emotional Response

When faced with Part 1 of the radiological scenario, participants agreed that they felt “scared” and “concerned.” These levels of fear increased as the scenario progressed.

- “[I feel] very uncomfortable.” (Part 1)
- “I would be more scared.” (Part 2)

Knowledge

Participants shared various beliefs with the group regarding term definitions and general awareness.

- “To me, [shelter in place] means stay where you are indoors.”
- “The word ‘shelter’ sounds a little confusing.”
- “Well, I have no idea what to do at all. If that announcement came. . .saying that there was potential radiation, I have no idea what to do about it.”
- “We really are not equipped with the information to deal with biological or chemical [attacks].”

Actions

The scenario generated a distinct consensus that actions taken and information sought would focus on the safety and well-being of the children, both from the perspective of school administrators and from the perspective of the parents. While opinions differed on what specific actions would be taken, all participants agreed that the actions they *would* take would be taken out of concern for their children’s safety.

- “Stay home. I wouldn’t want to leave.” (Part 1)
- “Keep my family together.” (Part 1)
- “If we are here at school. . .start to go through all the [emergency procedure] steps.” (Part 2)
- “I may disagree with them [about going to a shelter]. I would still go get my children no matter what. Because to me that is everything.” (Part 2)
- “[Regarding shelter], I am a rule follower. If someone shouts out ‘shelter’ I will stay. . .” (Part 2)

Information Seeking

When faced with the scenario, participants wanted to know ways to behave in order to “safeguard” themselves and their families. Provision of medical care and locations of “safe places” and shelters, symptoms and long-term effects were areas of concern. Most notably, participants wanted direct directions that are “real, clear and explicit” on what to do.

- “[I want to know] where do you go, what do you do? (Part 1)
- “[I want to know] who to contact, where we can find the resources we need.” (Part 1)
- “What is the school [doing]? Is the school prepared to have the children that day?” (Part 1)
- “Where is [the threat] specifically, and how far away from me is that?” (Part 2)
- “I think that you would want to know. . .if you were going to cause your children more harm [by going to a shelter].” (Part 2)
- “What should we truly be prepared for. No one is really telling us those things.”

Participants agreed that they would turn to television first for their information. The group reached consensus that local coverage would be better and have less “hype” than national news programming. When questioned about radio, participants mentioned that it would serve as a “last-ditch” source if television is not available. The internet was also mentioned as a source, though there were some doubts about credibility of information.

Participants agreed that they would like to see a local spokesperson because “it’s more tangible because it’s at our level,” but still credible because “it’s a government official.” Examples given included representatives of the city or county health department and the local sheriff.

- ““I don’t think that . . .a governor would [hold credibility]. . .maybe someone on the more local level.”

Release of Information

The general consensus regarding the radiological fact sheets was that they were informational and mostly “common sense,” but lacked “specific actions to take.” One participant mentioned that they didn’t “highlight the key take-away [facts].”

Levels of believability, credibility and perceived self-efficacy were high, but many participants were only somewhat confident that the options outlined in the fact sheets would keep them safe. However, they viewed that the actions would “certainly give a degree of comfort” or “false sense of security.”

- “Because you handed it to me. . .and you are from UCLA. . .I gave it a very high level of credibility.”
- “What made this believable is that I have seen [parts of] this.”
- “Most of it sounded pretty logical.”

Participants noted that the source was not being disclosed, and were confused about the difference between exposure and contamination. They asked for statistics, ways to diagnose, etc. Other questions included:

- “What is the emergency response network?”
- “I would want to know how long it takes to dissipate or pass.”
- “If something is contaminated what do you do with it?”

Recommendations for Improvement

Suggestions included adding contact numbers to the information sheets, making it part of the school directory, and designating/publicizing a radio station or phone number to give regular updates.

- “Use the simplest words possible, so that everybody or almost everybody is going to get it.”
- “This is way too dense in terms of copy. . . you have to have larger bigger bullet points, and some bigger subheadings. . .”
- “It needs to look more like a published document.”

Response to Government

Discussion regarding the government was minimal.

Perceptions of Emergency Response Systems

Discussion regarding emergency response systems was minimal.

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Summary report of qualitative analysis of focus group

Population: White, urban
Agent: Radiation

Region: Oklahoma
Focus group date: July 25, 2003

Prepared by the Southwest Center for Public Health Messaging
University of Oklahoma College of Public Health
Report date: October 31, 2003

GROUP CHARACTERISTICS

The focus group was held at a private residence in Oklahoma City, Oklahoma. Participants were members of the white urban community and were known to one another. The ethos of the group was friendly and open, with apparent interest in the topic of discussion. Demographic characteristics are presented in Table 1.

Table 1 Demographic Characteristics

Characteristic	Category	N (%)	Mean/SD
Age	Missing	13 (100) 0	51.38/13.60
	Male	5 (38.5)	
Sex	Female	8 (61.5)	
	Missing	0	
Education	Less than high school	0	
	Some high school	0	
	High school diploma or GED	1 (7.7)	
	Some college	8 (61.5)	
	College degree	2 (15.4)	
	Graduate degree	2 (15.4)	
	Missing	0	
Ethnicity/race	African American/Black	0	
	American Indian/Alaska Native	2 (15.4)	
	Caucasian/White	10 (76.9)	
	Other	0	
	Other (specified)	1 (7.7)	
	Missing	0	
Language in home	English	13 (100.0)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Marital status	Single	0	
	Married or living with partner	6 (46.2)	
	Divorced or separated	7 (53.8)	
	Widowed	0	
	Missing	0	
Children	Yes	13 (100.0)	
	No	0	
	Missing	0	
Employment	Yes	9 (69.2)	
	No	4 (30.8)	
	Missing	0	
Family income	Less than \$10,000	0	
	\$10,000-\$19,999	1 (7.7)	
	\$20,000-\$29,999	1 (7.7)	
	\$30,000-\$39,999	4 (30.8)	
	\$40,000-\$49,999	4 (30.8)	
	\$50,000-\$59,999	1 (7.7)	
	\$60,000-\$69,999	1 (7.7)	
	\$70,000-\$79,999	1 (7.7)	
	\$80,000-\$89,999	0	
	\$90,000-\$99,999	0	
	\$100,000 or more	0	
	Missing	0	

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Strong desire for as much information as possible.
- Desire to leave the area.
- Media is considered not credible due to constant sensationalism of news.
- Fatalism as to outcomes of any nuclear event.
- Concerns regarding children and school preparedness.
- CDC materials do not give enough information.

Results of qualitative analysis, by conceptual domain:

Pre-event knowledge

What is participants' current awareness of the CAS, precautions, and different threats?

- All participants were aware of the CAS.
- If threat level goes up:
 - Listen to TV more
 - Taking note of surroundings
 - Provokes question of if schools have a plan
 - Pull my children out of school
 - Avoid crowds.
 - Prepare home with water and food.
- The CAS is vague and silly.
- Quotes: (p. 2) I would notice things...key into my surroundings...(p. 2) I would be more apt to go and pull my children out of school just to make sure that I was with them if there was something going on...(p. 2) I have always thought it was so vague (CAS) that I didn't understand what went into them changing the color anyway, so it didn't have any meaning...(p. 2) I just thought it was kind of silly...(p. 3) I would prepare the home and stay close by...(p.3) I want to know how to prepare.

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- Fear.
- Consider leaving the area.
- Strong desire for more information prior to making any decisions.
- Concern for family.
- Some would retrieve children from school, but some questioned the advisability of this.
- Quotes: (p. 4) I'd load up the family and move out of Oklahoma City for awhile...(p. 9) I don't shelter in place...I would be gathering my kids and stuff up...(p. 9) This is radiation. This is completely different from a tornado. And so, your children might be safe if they stay in their place. And if you leave, you expose yourself, and if you take them, you expose them, too...(p. 4) I would want the news people to tell me what my options were after they gave me that information, what kind of things they'd

suggest you do to protect yourself...(P. 5) I'd have to hear more than the government. They're going to have to say more than you've just read...

What do participants want to know in the event of an emergency?

- How much radiation was released.
- What direction is the wind blowing.
- What would be physical signs of radiation poisoning.
- What is the size of the blast.
- What are the long term effects of the radiation.
- Who, what, where, when, how.
- Receive information in a timely manner.

Quotes: (p. 9) I would hope the government would give us information that was timely...(p. 11) How much radiation are we talking about? You know, are we going to be safe where we are if we stay inside, or relatively safe? I think what you're talking about is panic, and you know, obviously you would want timely information...(p. 12) Is there wind that day, I mean, is that radiation drifting in any particular direction versus not?...(p.12) I think one thing that people need to be informed about is what to expect as far as their body goes...what would we need to look for?...fear can bring on a lot of things.

Where do participants seek information in the event of an emergency and why?

- TV
 - Radio
 - Cell phone to call others to notify others.
 - Email to notify others.
 - Emergency Broadcast System over radio.
 - Sirens
 - Word-of-mouth.
- Quotes: (p. 7) If they think something imminent is going to happen, they'll come through with the emergency broadcasting deal that they do, because that gets people's attention...they do it over the radio as well...(p. 8) Sirens would be going off...(p. 14) So, let's say you had a bomb of that magnitude, you know, you're out of luck trying to find information. Then it becomes word of mouth, really.

What are participants' perceptions about government and preparedness?

- Public needs to be educated about radiological events.
 - Government should produce and distribute preparation kits.
 - Pacification by the government.
- Quotes: (p. 24) Sometimes the President, again, pacifies you.

What are participants' perceptions about the role of the media?

- Media is criticized for either constant sensationalism of all events, or sugar-coating of events, so information on a radiological disaster should be given by some other organization.
- Information given by a high ranking military official who is still active.

- Put one spokesperson on TV on all the channels.
- Contrary to above: one person seen as risky for not having “checks” on them.
- Quotes: (p. 17) (re: the Murrah bombing) I had guys calling me from all over the United States telling me about all the junk they were seeing on TV...that’s ridiculous, just the misinformation...the volume of misinformation the media in general puts out...(p. 17) Or the political push behind it. I’d like to hear what to do about radiation without having to hear about we should bomb so and so...(p. 22) You know, the thing I hate about the media is the sugar coating...(p. 22) Get an acting general, not a retired general...get somebody that knows what’s going on. And wipe out ABC, NBC, all that junk...(p. 22) Actual people to give us actual information.

What are other participants’ perceptions of interest?

- Would the electromagnetic pulse knock-out communications?
- Fatalism regarding survival during an attack.
- Specific instructions should be given to the public in laymen’s terms.
- Education is needed regarding the different types of nuclear attacks.
- Quotes: (p.13) If you get hit with a big one it’s really not going to make a difference. One, you’re going to be dead...(p. 19) If it’s radiation, if it’s very close to you, you’re not going to have to worry about any of this, you’re going to be dead...(p. 14) You have to be very specific in your laymen’s terms. They have no idea what you mean...(p. 14) I think the public needs to be educated as far as...the difference between...you know, terrorists aren’t going to be getting a hold of a bomb the size of Hiroshima or Nagasaki. They’re going to be getting a dirty bomb. And most people don’t know what that is.

Materials pre-test response

How well do preliminary message materials address information needs?

- Generally positive statements about the message.
- All homes should have the emergency items prepared.
- Some derision about the “pacifying” element of the information.
- Considered useful for the workplace.
- The focus group was thought to be for the purpose of information provision, rather than a research modality.
- Quotes: (p. 18) They give you stuff that makes you have hope tat if you have all this that you’d be prepared and stuff like this....it’s not going to save you or anything...(p. 18)...(p. 20) I don’t think you can be prepared for this. They keep saying ‘Tell us what to do,’ well, they can’t. This is what they can tell you...And another thing too is we practice drills and drills and drills at my work. ..this right here is...I would have this, but this should already be in your house right now...(p. 19) This is why we came here tonight, to learn more about it...because even at...I work in two different hospitals...no idea of what the heck to do...we don’t have any specifics on what we do in the event of this, that, or the other.

What are unmet information needs?

- What dose of radiation corresponds to sickness and death.

- Need for education regarding bioterrorism.
- Desire for information on the local level.
- Quotes: (p. 20) I would like to know what the dosages are. You know, what they think, what realistic, what's going on. Because then I'd need to make some decisions based on that. ..(p.19) This is why we came here tonight, to learn more about it...because even at...I work in two different hospitals...no idea of what the heck to do...we don't have any specifics on what we do in the event of this, that, or the other...(p. 21) Information, information, information...(p. 24) All the information I want is just very local information for like when I am already at home dealing with this huge emergency...I just want the immediate information and that's going to come from a local guy.

How do participants respond emotionally to preliminary message materials?

- Calming thing to read.
- Expressed emotional need for additional information.
- Quotes: (p. 19) I think this is a real calming thing to read...(p. 19) I would like not to be dead. I would like a sure thing. I would like for them to inform us now.

How credible are the preliminary message materials?

- Highly credible, but more should contain more information.
- Quotes: (p. 20) I don't care what you all think about the duct tape. I'm going to be taping my window. Give me hope if nothing else...(p. 20) You're doing something to protect yourself...(p. 20) You're putting onto action.

How successful are materials in fostering self-efficacy?

- High level of confidence in use of the information (general agreement), but also a desire for much more information than the sheets provide.

What are participants' recommendations for improving the materials?

- Specify the medical symptoms that could be expected, and how exposure will affect an individual.
- How long should one shelter in place.
- Action steps should be specified.
- Quotes: (p. 20) They should put in there what to do in the event of...what to look at as far as if they start having these symptoms, when do they need to go get medical help, or what they can do at home to alleviate these symptoms...(P. 25) this doesn't tell me anything about what it's going to do to me...Is it going to give me respiratory problems, is it going to burn my skin, is it going to cause me to go blind, what's going to happen?(p. 21) How long are you taking shelter? Do you just stay in there until somebody comes and gets you? ...How long is taking shelter?..(p. 26) Just for my own thoughts, I would like to know what you could take to ease the pain. I'm sure there's going to be a lot of pain.

What are other participants' recommendations for preparedness?

(Summarize participants' other recommendations.)

- Action steps
- Signs and symptoms of exposure/contamination
- Education programs for public and professionals
- Provision of kits to be used
- Messaging preparedness regarding a credible spokesperson/agency

SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT

Summary Report

Population: White rural
Agent: Radiation

Region: Oklahoma
Focus group date: 5 Aug 03
Intercoder reliability: 80%

Prepared by the Department of Health Promotion Sciences
University of Oklahoma College of Public Health
Report date: October 31, 2003

GROUP CHARACTERISTICS

What are the characteristics of the group?

The focus group was conducted in the Choctaw Nation Indian Health Clinic in Broken Bow, Oklahoma. Recruitment was done by Hampton Anderson, III, D.O. The group consisted of white members of the rural community. The group members were known to one another, and the ethos of the group was open and friendly. Participants were well-educated and receptive. They enjoyed participating in the group and expressed a need for education programs about bioterrorism.

Demographics of the group are presented in Table 1. (to be added later)

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Fear, protection of family, wish to flee.
- Desire full facts regarding action steps and health implications both short and long term.
- Media: TV if at home and internet if at work.
- The government is generally trustworthy with information provided, but is perceived as withholding information.
- Desire for information on pre-event preparation plans with the caveat that the “duct tape” experience has jaundiced the current few of government recommendations.
- Information needs may more efficiently be met by utilizing CDC messaging, as participants trust non-governmental agencies.
- Provision of information regarding supplies and preparedness engenders a sense of self-efficacy.

Results of qualitative analysis, by conceptual domain:

Pre-event knowledge

What is participants’ current awareness of the CAS, precautions, and different threats?

- General awareness that “red” was the highest, but without specific action steps.
- Participants have some knowledge of types of threats, but more education is needed/desired.

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- Fear
- Horrific sense of outcomes regarding burns, and concern about treatment methods.
- Sense of inability to defend one’s self.
- Sense of futility about existence of self-defense strategies, a sense of fatalism.
- Worry about the well-being of family.

- Wish to flee the area.
- Quotes: (p. 1) I would be come alarmed and begin wondering what I was going to do... (p. 1) you don't really have any protection in our home against anything... (p. 1) It would be pretty scary, I think, you know, because really there's nothing you could do about it...(p. 2) People just terribly burned and all the chemicals...(p.3) How would you tend them, how would you take care of them?... (p. 12) I'll get food, I'll get whatever, and I'll get my things together and travel...(p.12) The first thing I would do is find out where it blew up, which way the wind is blowing, then...the opposite direction...(p. 15) there's not really much you can do, from what I know.

What do participants want to know in the event of an emergency?

- Actions to reduce the affects on them.
- Steps leading to protection of themselves.
- Specifics about the nuclear event: time, blast area, miles of affect from its center, weather conditions (wind direction)
- If exposed, what are symptoms, chances of survival, and long-term effects of exposure.
- Factual and complete information from the media and government.
- What is being done to help the victims.
- Quotes: (p.4) steps to take so we could prevent it from affecting us more; I mean what would you do to take preventative steps...(p. 4) time of the event...how far away do I need to get?...How to protect ourselves. (p.7) What are the symptoms that I need to look for?...skin peeling off...I doubt I'd get the full story from what's being reported...they've never told us the whole story about anything...(p. 22) it gives you information, what people are doing, something to help others...it sounds like they have things in place and they gave information as to what to do.

Where do participants seek information in the event of an emergency and why?

- Radio.
- TV.
- Media.
- Internet
- Civil defense.
- Trusted sources of information were CDC, and non-government sources
- Local authorities: sheriff, highway patrol, police, national guard.
- Quotes: (p. 8) If they said it was from the CDC then I would... I'd probably go with something less government, CNN, Fox News, something like that....(p. 8) I think I would probably pretty much trust anything that came out at a time like that of crisis from a government agency...(p. 30) If I was at work, the Internet is the first place I would look...if I were at home, I'd turn on the TV.

What are participants' perceptions about government and preparedness?

- Government sources are considered to have information that will be withheld.
- Government information that is given is considered to be trustworthy.
- Federal government's information does not usefully inform local authorities and local actions.

- Quotes: (p. 7) Oh, we know we wouldn't hear the full story...(p.8) and you know they would be trying to prevent panic and all that so you wouldn't be able to trust them...(p.9) the Federal government may initiate the warning that, yes, you're in a potential site, but I would think that there's step-down plans where the sheriff's department or civil defense or whoever is in the county knows, okay, you know this enacts this and if this happens, we need to do some things...(p.10) I trust the government, but I think that they're not going to tell you (everything)...(p. 10) President Bush is going to get on the national TV and I would believe what he said, you know, because it would just be general good sense type of things, you know, but it's not going to be as specific as people are going to want... (p. 18) and sometimes I guess maybe I'm a little too naive, but I know the government has things they can't disclose to everyone but I don't think there's this huge conspiracy to cover up our well being. I know there's things they can't tell us...

What are participants' perceptions about the role of the media?

- Implicitly, participants want information, but are selective at different times about which media source to use.
- Events during the tornados of May 3rd indicated that the media try to work together to provide the public with consistent information.
- Quotes: (p12) really, you say (here in this calm discussion), I would trust this or that (media source) or whatever, but really you just believe everything you hear because you're not really sitting down and there's not time to really think about what's going on, you just see "crisis"...(p.11) people call the police department any time there's an emergency...we get overcrowded (and can't respond effectively)...people listen to different sources and (then compare "notes" to assemble a knowledge base)...(p.25) You know, in that tornado that May 3, the media...they all made that decision that that's what they would all say. That impressed me because there was a group put together to make that decision.

What are other participants' perceptions of interest?

- Desire for pre-event probabilities about what type of attack is most likely for their area.
- Existence of a plan would decrease anxiety.
- Quotes: (p. 11) I see us drinking water and it being contaminated. I see Barksdale (Air Force Base) getting bombed. I see different scenarios happening and if they could profile what is a possibility, these are the probabilities of the terrorist attacks that you could have in your area, and then give us the steps (of protection) for those...(p. 22) if something bad happened and there was an order, people in charge had a plan and that would make me feel a lot more comfortable and a lot less panicky.

Materials pre-test response

How well do preliminary message materials address information needs?

- Preliminary message materials are considered to address most information needs.
- Quotes: (p. 26) I think it's helpful and it's written in a way that most people can understand...real easy to understand, I think it gives you information as far as what to do.

What are unmet information needs?

- Desire to the physical signs of damage.
- Desire to know the degree of sickness related to exposure dose.
- Desire to know the facts of morbidity and mortality.
- Quotes: (p. 26) it really doesn't say anything about symptoms...doesn't tell you what might happen if you were exposed...it doesn't give you any range of how long the exposure might be a danger to you...(p. 29) give me the levels, give me the symptoms, let me compare them, let me know what's going to happen, let me know my life span.

How do participants respond emotionally to preliminary message materials?

- Some defensiveness and anxiety.
- Quotes: (p.27) did they (CDC and this focus group) try to shock us or scare us by bringing those two examples (Chernobyl and Japan) up...Russia and Japan, you know, we've read about it in a history book but it doesn't click in your mind that this could happen here, and so it's like reading you know, fantasy or something.

How credible are the preliminary message materials?

- There is some degree of problem regarding credibility.
- Quotes: (p. 15) Well, how many government people have tested getting in a building and covering up the windows with a piece of plastic to see if that's going to...(the fact sheet) needs to have CDC written on there somewhere...

How successful are materials in fostering self-efficacy?

- Positive sense of self-efficacy.
- List of recommended supplies fostered self-efficacy.
- Trust in government planning.
- Quotes: (p.18) I'm extremely confident, but like I heard him say, I couldn't write a better list myself...just the fact that they are taking these precautions that have been approved and recommended generally makes people feel better, that they're protecting their family and doing the right thing...gives you some action steps, might engender more security...(p. 19) with something like this we can carry it out. I work for the government and we've got plans for everything.

What are participants' recommendations for improving the materials?

- Desire clarify regarding contamination.
- Add pictures that are simple and reduce reading.
- Addition of messaging that is not so dull.
- CDC provision of an internet site and a phone number
- Quotes: (p. 27) It goes on to say a person has x-rays and been exposed but they haven't been contaminated. Well, does that lead a person to believe that being irradiated is better than being contaminated?...was this considered a little bomb?... (p. 29) I would still just make them two or three

little pictures that tells you what to do, with very few words and just pictures...some people would have a problem reading all the words on it...(p. 17) they could also tell us, if you are caught in a situation and you don't have this and you're not at your home, what can I do to cover myself? Is a blanket even going to help? Is there anything I can do to help myself until I can get to a place where I'm going to have these materials?...(p. 26) I think this sheet's basically pretty dull and that most people wouldn't read this. It's not helpful in the sense that I could say, well, I read this, what did it tell me?

What are other participants' recommendations for preparedness?

- Availability of supplies from local store such as Wal-Mart.
 - Discussion about items needed to survive for a week or more.
 - Provision of radiation detection devices.
 - Effective medical kit provision.
-
- Quotes: (p. 16) I think Wal-Mart should just sell this stuff right here in a little package and it say 'CDC recommends that each home stock this item'...Because you know that you would have to survive for close to a week before Red Cross....(p.17) sell at Wal-Mart is a way to detect radiation....badges they wear when they go in a radiation area it turns...a medical kit that would go and arrest some of these problems.

GROUP CHARACTERISTICS

All eight participants in the discussion hosted by The University of South Florida's College of Public Health are Hispanic and Hispanic-American men and women. Two participants are Cuban; three are Puerto Rican; one each is from Colombia, Guatemala, and Chile. Two were born in the United States. The average length of residency is 25 years. Seven live in Hillsborough County, FL, and one lives in Paso County.

Four females and four males participated. One participant is 20; two are between 25 and 39 years old; four are between 40 and 64; one is 81 years old. Their educational level ranges from a high school diploma to terminal professional degrees to master's degrees and juris doctorates. Their occupations are: retired secretary and Neighborhood Watch team leader, bookseller for bookstore chain, circuit judge, clinical social worker, paralegal, family services coordinator for migrant families, retired attorney and writer, social worker and program coordinator for non-profit Hispanic service organization.

Length of Time Residing in U.S.A. (years)	Range	Mean
33	7 - 58	25 years
7		
6		
25		
13		
34		
58		
23		

The participants and their children are bilingual. Five individuals have children. Five participants are fluent in both Spanish and English. Three speak English with a degree of difficulty. When at home three speak only Spanish; five speak both Spanish and English.

All participants self-identify as Hispanic persons who are comfortable not only with their ethnic heritage but also with their roles in two or more cultures. None reject their Latin heritage or try to diminish or conceal it. This focus group demonstrated political awareness, concern for community, and sensitivity to the well being of others, especially the area's migrants. They were receptive to new, often disturbing ideas and issues. They have a clear sense of what a community is and of individual rights and responsibilities relative to community. As a group they were alert, articulate, emotionally responsive, and they showed an interest in learning more about security issues. In addition, all were pleased and proud to participate in the nuclear focus group.

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- ❖ Mass panic frightens people as much as a threat or actual attack.
- ❖ Alarmed over lack of information currently available
- ❖ Concerned about issues of preparedness on personal, local, and national levels.
- ❖ Strong desire to communicate with, gather together, and protect loved ones.

- ❖ English-speaking television news is more comprehensive and timely; Spanish-speaking stations are slow and do not give local news.
- ❖ Anxious about the government's ability to respond quickly and appropriately to a nuclear attack.
- ❖ Crucial information not available in Spanish.
- ❖ Concerned that information will not be provided in several different languages, in the Indian dialects spoken by migrants, and in a form the least educated and literate can understand.
- ❖ Participants want detailed, credible, comprehensive information before, during, and after an attack.
- ❖ Information should include graphics and phrased carefully so as to reduce panic potential.
- ❖ Participants want a protocol to follow.

Results of qualitative analysis, by conceptual domain:

Pre-event knowledge

What is participants' current awareness of the CAS, precautions, and different threats?

- ❖ Uncertain about the meaning of the color alert levels.

"It is very important also for us to know the types and levels of the whole alert system. Sometimes these things just come and scaring people, you know. So most of us, we have a lot of doubt."

- ❖ Want definition of words and terms used in warnings.
- ❖ Do not understand the nature of nuclear attack, priorities in terms of protection and evacuation, and precautions.

"I don't know what to do if it should happen ... then the atmosphere inside, the plants, the waters, the rivers have been contaminated ... the animals. After this, if it happens, don't drink water, do not drink anything fresh, like milk from a cow."

"What is the radiation?"

"I need to know how far I need to be from the area in order to not get eradicated."

- ❖ Do not comprehend threats but are beginning to take possibility of attack seriously.

"Nobody really cared about radiation or any kind of things that could happen because we thought we were really protected but now everybody wants to know everything. They want to have information in order not to panic."

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- ❖ Expressed urgent need for detailed information.

"You really want to know whether you're ... contaminated, so I would like to know exactly what are the signs and symptoms ... Should I go to a hospital or should just run away or stay at home and just watch TV and do what you can ... if your eyes start bleeding then you probably should go to the hospital."

- ❖ Expressed anxiety and confusion over lack of preparedness on personal, local, and national levels.
- ❖ Believe people will panic.
- ❖ Mass panic frightens people as much as a threat or actual attack.

- ❖ Participants' anxiety increases when they lack information, a plan of action, and when they are not prepared.
- ❖ Being able to communicate with family members and neighbors crucial to peace of mind.
- ❖ While skeptical about government's ability to communicate efficiently and to protect citizens in a nuclear crisis, people rely on government agencies to provide adequate resources such as gas masks.

"If the government know that kind of thing could happen, then they have to provide us with the things."

- ❖ Concerned that information will not be provided in different languages, in the Indian dialects spoken by migrants, and in a form the least educated and literate can understand.

What do participants want to know in the event of an emergency?

- ❖ What kind of nuclear threat?
- ❖ Gravity of attack?
- ❖ Location of incident?

"How far do I have to go in order to be safe?"

"You need to know where it happened, where the wind is spreading ..."

- ❖ Who is affected? Fatalities?
- ❖ Preparedness of local officials, police, emergency response personnel?
- ❖ Consequences of exposure?

"What are the warning signs to look for? What do I do if all of a sudden I start getting red lumps on my arm? What do I do if I start having trouble breathing?"

- ❖ Protection of self and others?

"I will communicate the neighbors. I will knock on their doors in case to be sure they not listening. I will knock on the door and I will say, 'Listen, do you hear the radio? This is happening.'"

- ❖ Precautions? What to do and what not to do?
- ❖ Safety of water supply?
- ❖ In which direction is the wind blowing?
- ❖ Length of time substance remains in atmosphere?
- ❖ Treatment?
- ❖ Evacuation routes?
- ❖ Where should teachers take their students to protect them?

Where do participants seek information in the event of an emergency, and why?

- ❖ Turn to English-speaking television news because they think that Spanish-speaking stations are slow and do not give local news.
- ❖ Listen to the radio.
- ❖ Communicate with family and neighbors by phone or in person.
- ❖ Rely on Neighborhood Watch groups to contact individuals.
- ❖ Phone the police, the fire department, or other government agencies since these sources are official and some participants believe the information they receive will be credible.

What are participants' perceptions about government and preparedness?

- ❖ Anxious about the government's ability to respond quickly and appropriately to a nuclear attack.
- ❖ Available information on WMD not as comprehensive or detailed as it needs to be.
- ❖ Emergency information not available in Spanish and other languages spoken locally, including severe weather warnings and emergency telephone numbers.

What are participants' perceptions about the role of the media?

- ❖ Role of media critical in the event of an attack.
- ❖ While relying on media for information dissemination, want more accurate, detailed information.
- ❖ Want broadcasts to be in many languages.
- ❖ Expressed concern about people too poor to own a television or radio as well as those unable to understand what they hear, see, or read.
- ❖ Expressed concern about the migrant workers who speak only Indian dialects, not Spanish, and who do not have access to television or radio.
- ❖ Media will not necessarily reach the audience the informational material needs to target – those who do not subscribe to cable TV or buy newspapers.

The material should be “focused and printed and distributed through a community organization, through a church, through an outreach program.”

What are other participants' perceptions of interest?

- ❖ Participants feel less anxious when they receive information from a person or organization they trust. The organization is not necessarily media.
- ❖ Participants want clear, detailed, credible information before, during, and after an attack.
- ❖ Public messages should be carefully phrased to reduce confusion and possible panic.

Materials pre-test response

How well do preliminary message materials address information needs?

- ❖ Pre-test information needs more detail, definition, clarity.
- ❖ Want to know what to do and what not to do, where to go, and how long the radiation will affect the environment.
- ❖ Time element important. How much time do people have to decontaminate?

What are unmet information needs?

- ❖ Participants want detailed, comprehensive information in more than one language.

Emergency information should be available in Spanish “if the government wants to save us from getting destroyed.”

- ❖ Want information presented graphically and in color.
- ❖ Emergency phone numbers and locations?
- ❖ What are the properties of different types of radiation that might be used in attacks?
- ❖ Use graphics to illustrate decontamination methods.

Migrants “could be working contaminated, and they don't even know it. And even though with the pictures they realize, oh, this is how it looks, this is what I've got, this is the color. I mean, if you explain it to them,

maybe they don't remember the words but they come to see the pictures and they might understand what that means."

- ❖ Use graphics to illustrate symptoms.
- ❖ How does radiation spread?
- ❖ How safe is the water supply? Fresh food?
- ❖ What do I need to buy or obtain to protect self and family?
- ❖ Long-term effects?
- ❖ Disposal methods for contaminated clothing and other items?

How do participants respond emotionally to preliminary message materials?

- ❖ Most participants feel afraid, anxious, and confused.
- ❖ Participants feel more secure if a protocol is available to follow.
- ❖ Others feel the fact sheet is more likely to cause mass panic because it is confusing.
- ❖ All indicate that the fact sheet is inaccessible to the uneducated or monolingual.

How credible are the preliminary message materials?

- ❖ The material is credible but not as comprehensive, detailed, or as intelligible as participants wish.
- ❖ Want a coherent plan to follow.

How successful are materials in fostering self-efficacy?

- ❖ Materials increase awareness of possible attack and the problems associated with it.
- ❖ Materials create an understanding of the need for credible, detailed information available from many sources, and for developing survival plans for individuals, their families, and the community.
- ❖ Participants aware they need to develop ways to communicate with family and friends and to have emergency plans.

What are participants' recommendations for improving the materials?

- ❖ Include phone numbers and addresses, a location map, and street directions of where to go for help and safety.
- ❖ Simplify the wording. Use graphics. Write it in different languages.
- ❖ Create different fact sheets that address different literacy and education levels.
- ❖ Divide information into areas – pre- and post-attack precautions.
- ❖ If protective gear is necessary, state it and show pictures.
- ❖ Simplify wording but increase the content.

What are other participants' recommendations for preparedness?

- ❖ Identify population concentrations and where the most people are likely to be at given times, such as movie theaters, restaurants, churches, schools, home. Contact managers, clergy, school officials and help them develop methods to provide information during public crisis.
- ❖ Information should have a pre-event distribution.
- ❖ Information should be available in churches, schools, organizations, clubs, neighborhood watches, supermarkets, physicians' offices, and all public buildings.

- ❖ Networks should use scroll ribbons at bottom of screen in different languages addressing emergency situations.
- ❖ The city and county should activate a public address system like the Civil Defense alert.
- ❖ Use care in phrasing and presenting information.

”Because the moment a dirty bomb explodes and there is a 300 yard contamination, they think the whole State of Florida is going to glow in the dark and you can’t do anything I don’t think you want to describe the worst case scenario every time because then people are going to panic in the best case scenario.”

- ❖ Educate the public well before a nuclear emergency.
- ❖ Give people an opportunity not only to be warned but to participate in emergency aid, especially if they are bilingual.

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Summary Report of Qualitative Analysis of Focus Group

Population: Urban Hispanic/Latino
Agent: Nuclear

Region: North Central Texas
Focus Group Date: July 25, 2003
Inter-coder Reliability: 85.84

Prepared by:
The University of North Texas Health Science Center
School of Public Health
Fort Worth, Texas

Subcontract to:
The University of Oklahoma College of Public Health
Oklahoma City, Oklahoma

Report Date: November 27, 2003

TEXAS TEAM GENERAL COMMENTS

- Some participant statements were very difficult to categorize within the limited coding structure given—psychosocial specialization is needed when developing coding systems. Perhaps a focus group of focus groups would be beneficial to capture cultural meanings in participant responses when developing coding systems. Coding software training can improve quality and efficiency of contract work.
- There may be relevant statements that have not been identified since they do not respond to parent and child codes nor are they major themes to be identified as an emerging code.
- Coding passages may pull them out of context and/or place them into a new context; this may be more likely to occur in cultural communications.
- Fact sheets and Q&A sheets have been read to all Hispanic focus groups in different degrees rather than assuming participants will read the materials for focus group discussion.
- The Hispanic community is sending very powerful messages in their very thought-provoking statements; in general Hispanic communities show very methodical analysis of public communication and have made careful conclusions about what they see and hear.
- The psychology of beliefs, knowledge, perceptions, behavior, etc. for different cultures requires careful thought to node descriptors, definition, and classification.
- An emerging code was identified with this focus group for “belief that recommended actions will not lead to a good outcome” and has been coded as “RI~SE/RI~NOE”.
- Participants from this focus group were recruited from a non-profit community-based organization that provides services to individuals with social and economic crisis conditions, many requiring counseling and follow-up services. Although these individuals are high risk for social psychological conditions, omitting such individuals would bias the sample population.
- Passages under *Perceptions of Government Trust/Credibility of Elected Officials* show distrust rather than trust in officials.

GROUP CHARACTERISTICS

The nine participants in the focus group ranged from 18-80 years of age with an average age of 48.89 (SD = 18.30). Five males (55.6%) and four females (44.4%) participated in the session. Seven participants (77.8%) were married or living with a partner and two participants (22.2%) were single. Seven participants (77.8%) had three or more children and two participants (22.2%) did not have any children. Seven participants (77.8%) had schooling outside the US. Four participants (44.4%) had schooling in the US, two (22.2%) had less than high school education, one (11.1%) had some high school, and one (11.1%) had a high school diploma or GED. Spanish was the language most spoken in the home for all the participants. Five participants (55.6%) were currently employed.

RESULTS OF ANALYSIS

Executive Summary of Top Concerns and Topics of Discussion

- Participants are scared, intimidated, traumatized by, and feel some resentment to public information on terrorist attacks.
- Resort to God as their last hope and trust.
- Feel uninformed; must wait to receive information by television or radio.
- Uncertainty as to whether they should stay in the home, in the city, or flee.
- Radiation is the ultimate danger; no escape.
- Church is their likely shelter and place for information seeking and refuge.
- There is a humanitarian side to them.

- Desire for specific information.
- Concern in form of presenting news, information; often deceiving and consequently questionable and unbelievable.
- Some participants believe the information and others do not.
- Some participants are more in control of their lives than others.
- The government is blamed for the state of affairs.

Results of Qualitative Analysis by Conceptual Domain:

Pre-Event Knowledge

Color Alert System

Protection of Self from Attack

Meaning of Chemical, Nuclear, Biological Attacks

Guidelines did not include this section.

Scenario 1—Non-Specific Agent

Emotional Response—what participants feel

- Scared, spooked.
- The participants feel that the people are left traumatized; they are left waiting to hear that suddenly the bomb may explode.

Knowledge—what participants believe

- Sometimes, in desperation, the people do not think.
- Everybody is in it together, some go one way while others go another way, but all are in the hands of God.
- When an emergency hits is when the participants think about being alert and think about what it is they have to do to assist.
- Participants indicated that God knows what he does; he does not want bad things for anybody.
- Participants always leave it in the hands of God, not just when they are dying and in trouble.
- Quotes—Section 2

Line 67: “be it what God wills”.

Line 139: “what God wills; God is here for everybody”.

Actions—what participants would do

- Participants indicated they just have to wait; what can they do—they do not know anything.
- Since they do not know how to inform themselves that well, they would just wait to see what comes.
- Participants indicated question as to whether they would leave Fort Worth or stay.
- Participants stated they would hide under the table.
- Stay in touch with the news either by television or radio.
- Participants would be alert to what would happen and be ready for what they are told to do.
- Participants said they would go to church to join their congregation members.

- Participants indicated they would gather their children in the living room or in a room, be close to family, and watch television as a family, to be informed as to what is happening.
- Participants would learn a prayer and pray for themselves and others.

Information Seeking—

What information is wanted by participants

- Know where to go.
- Know where the bomb is located.

Where would participants get information

- Television.
- If at home, television; if on the road or in the auto, the radio.
- To know more, participants stated that television is where they see everything to be most prepared for what may happen.

Participant credible sources

- If at home, television; if on the road or in the auto, the radio.
- To know more, participants stated that television is where they see everything to be most prepared for what may happen.

Scenario 2—Symptoms

Emotional Response—what participants feel

- Intimidated.
- Participants indicated that what we are presenting to them makes them shake.
- Participants indicated this is how they feel now, but they don't really know how it would be then.

Knowledge—what participants believe

- Participants indicated that once they reach the age of 50, everything from then on is a gain.
- Participants indicated that the children leave them; within context this may imply that the children leave them because they die..
- The innocent will be the ones who pay—justice for those people who sinned.
- Not only one person will be contaminated, everyone in the city will be contaminated.
- What is the possibility of preventing people from leaving the city since they are contaminated.
- There is no alternative because radiation kills the individual either quickly or slowly—the person is none-the-less contaminated.

Action—what participants would do

- Entrust the people dying to God; what else can they say or do.
- Go to a shelter.
- Participants would go with people and pray.
- Look for a shelter.

- In the home, participants would go to the television to see what is happening in the news.
- Participants would go to church, where else—this is the place to take refuge.

Information Seeking—

What information wanted by participants

- What area is covered by radiation; 10 miles, 12 miles, 15 miles, or 40 miles—we do not know how far it reaches.
- How serious is radiation; what levels of radiation are there?
- Information indicating that the radiation will not reach the area where they are.
- How to find out how to prepare?
- What type of effects does radiation have?
- Why is this happening?
- In what form does radiation appear?
- What time will the attack arrive; perhaps it is already there.
- What is it that the participant can do under these circumstances.
- Quotes—Section 3

Line 205: “why is this happening”..

Line 208 “what time will the attack arrive; perhaps it is already here”.

Where would participants get information

- Participants would stay by the television.
- Participants would go to church.
- In the home, participants would see what is happening in the news.
- Participants cannot always be watching television or listening to the radio, but they can listen to comments from people, opinions, ideas, and be on the look out.
- Talk to someone who might have heard the news better.
- Refuge in a catholic church where there has to be information and everything.
- Go to church where else—it is the only place where we can take refuge.

Participant credible sources

- Participants would stay by the television.

Scenario 3—Agents, Symptoms, & Response

Emotional Response—What participants feel

- Participants feel intimidated with what is being discussed—discussion about death; it is going to come, but it is unknown when it will come.
- Participants feel that if they are inside they will not know if another person or a family member is contaminated.
- Participants feel that they are safe inside, but other people and loved ones are not safe.

Knowledge—What participants believe

- If a family member were to be outside and contaminated, the individual inside must do an extremely difficult thing and not let the family member in so as not to contaminate himself or others inside—these are extremely difficult decisions to conceptualize.
- Participants are dubious of the recommendations regarding the attack and may actually do the opposite—Spanish proverb given.
- Participants indicated that this talk today is imaginary not real, but if it were to happen, if they listen now, they will be informed—participants questioned verification of information we were giving and there was resistance to follow recommendations, but participants did not leave the focus group.
- The July 4th alert of possible terrorist attacks is an example of why people doubt and resist recommendations.
- Participants worry so much over all of this that they can become ill.
- This actually happened a few weeks ago on television. The pressures make participants ill such as what could happen to them due to this talk today.
- Participants stated that on one side, this can be intimidating but on the other side they must listen to learn.
- The cloud of radiation will move in the direction the wind blows.
- Participants indicated that the best one is God; the news are with him. If we trust in God and place him above all, he has the power and nothing will happen to the participants.

Actions—What participants would do

- Participants would remain in the church; do what God wills because he can do all.

Information Seeking—

What information is wanted by participants

- Listen for the direction of the nuclear cloud; if it is coming towards them or going away from them.

Where would participants get information

- From the local news.

Participant credible sources

No themes found.

Scenario 4—Release of Information

Comprehension of Materials—

What was learned or main points

- Participants learned to be alert; if an attack occurs, they would close the windows, protect themselves, stay away from windows just like when a tornado hits and glass shatters.
- Keep regular medicines available.

Additional information needed

- Is there radiation or not.
- The extent of radiation to the body.
- What type of medication is necessary in order to be prepared.
- Include in a newsletter the types of radiation and the medication to cure or treat each type.

Understanding of the risk

- Participants indicated that understanding depends on the person because if he/she does not believe that this is happening, they will not take precautions.
- Participants indicated that they do not know if the attack catches them outside; they will go inside just to die.
- Participants indicated that inside they are safe, but when they go outside, the radiation can catch them and that is it for them.

Knowledge of where to turn for information

No themes found.

Emotional Response—

How materials made participants feel

- More confident, but still intimidated.

How materials could be changed to trigger fewer emotions

No themes found.

Credibility—

Credibility of print materials

- Do not have much confidence in the materials.
- Participants say materials are very good; they know what a person needs.
- Participants trust in the information.
- If an attack were to occur, then this information would be what the person would need to do.
- Sufficient information; well understood—participants want to do what has been given them; why have anymore information.

How can credibility be increased

No themes found.

Anything participants feel was not disclosed

No themes found.

Self Efficacy—

Ability to follow recommended actions

- Participants indicated that if they have time to follow these recommendations, they will follow them—if not, it does them no good to be informed.
- Yes, several participants agreed given the materials, they could follow recommendations.
- Good suggestions, the participants will take advantage of the information.

Belief that recommended actions will lead to good outcome

- The information given would help the participant to know more and to protect themselves.
- The only thing that can convince the participants that they are protected, is our word.

Participant's confidence in the recommended actions for safety; what to do

- The only thing that can convince the participants that they are being protected, is our word.
- Participants have an idea of what they should do based on circumstances.
- It is important to have a medicine cabinet with medicines, radiation or no radiation.
- It is very important to be informed; be a little on the alert.

Participant's confidence for understanding of the risks of events/disease

No themes found.

Knowledge of where to turn for information

No themes found.

Belief that recommended actions will not lead to a good outcome

- Participants indicated that even if they were prepared, if there were an attack, it would be over—that is the way it is.

Improvement—

Print Materials

No themes found.

Other Methods: dissemination and channels of information

No themes found.

Perceptions of Government—

What government agencies are mentioned

No themes found.

Trust/credibility of elected officials/government representatives

- If two governments were in opposition, why would they not handle it amongst themselves so that innocent people would not have to die.
- Governments need to talk together; the government itself is making war.
- Within government positions, there will be discontent and the same people bring these attacks.

Response of government systems

- Participants indicated that we should ask ourselves does the president know that the terrorist is within the same government planning an attack; why wouldn't he stop it before it happens.
- Participants indicated that If the government knows who it is, why not attack them before this occurs.

Perceptions of Emergency Response Systems & Media—

Perceptions of 1st responders

No themes found.

Perceptions of human services providers

No themes found.

Perceptions of media

No themes found.

Miscellaneous—

General knowledge

No themes found.

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Summary Report of Qualitative Analysis of Focus Group

Population: Rural Hispanic/Latino
Agent: Nuclear

Region: North Central Texas
Focus Group Date: August 4, 2003
Inter-coder Reliability: 93.8%

Prepared by:
The University of North Texas Health Science Center
School of Public Health
Fort Worth, Texas

Subcontract to:
The University of Oklahoma College of Public Health
Oklahoma City, Oklahoma

Report Date: November 27, 2003

TEXAS TEAM GENERAL COMMENTS

- Some participant statements were very difficult to categorize within the limited coding structure given—psychosocial specialization is needed when developing coding systems. Perhaps a focus group of focus groups would be beneficial to capture cultural meanings in participant responses when developing coding systems. Coding software training can improve quality and efficiency of contract work.
- There may be relevant statements that have not been identified since they do not respond to parent and child codes nor are they major themes to be identified as an emerging code.
- Coding protocols may inadvertently pull passages out of context making investigator implications versus saying what participant means; this is much more likely to happen in cultural communications.
- The coding protocols were developed before conducting the focus groups thus limiting the purpose of the focus group activity itself. Qualitative research must be dynamic and adapt to situations that occur as researchers interact with the participating population.
- Fact sheets and Q&A sheets have been read to all focus groups participants in different degrees rather than assuming participants will read the materials for focus group discussion.
- The psychology of beliefs, knowledge, perceptions, behavior, etc. for different cultures requires careful thought to node descriptors, definition, and classification.
- The participating communities are sending very powerful messages in their very thought-provoking statements; in general the participants showed a very methodical analysis of public communication and have made careful conclusions about what they see and hear.

GROUP CHARACTERISTICS

The 12 participants in the focus group ranged from 18-48 years of age with an average age of 29.58 (SD = 10.67). Seven males (58.3%) and five females (41.7%) participated in the session. Seven of the participants (58.3%) were married or living with a partner and five participants (41.7%) were single. Seven participants (58.3%) had children and five (41.7%) did not. All 12 participants had schooling outside of the US; four (33%) had higher education-equivalent schooling outside of the US. Only two participants (16.7%) reported US education (less than high school education). Spanish was the language most spoken in the home for all the participants. Ten participants (83.3%) were currently employed.

Every Hispanic/Latino community has its own community dynamics, infrastructure, and levels of communication systems and process. Time is required to approach communities with dignity and respect. Different leaders within the community (e.g. the Hispanic Chamber and different church congregations) organize their communities and communicate with them differently. Our hasty deadlines, the use of several community leaders to expedite the process, and a change in location to a site distanced from the recruitment site, resulted in poor attendance (one participant attended) the first time we scheduled the focus group in this location. The second recruitment effort and the focus group session were held in the same location and organized by one community leader who also assisted in screening the participants. This focus group was a success.

RESULTS OF ANALYSIS

Executive Summary of Top Concerns and Topics of Discussion

- Some people are prepared and knowledgeable and others are not.
- Prevention and being prepared in advance of a terrorist attack.
- Initial fear, worry, and desperation reflects un-preparedness.

- Realization of need to be strong in order to reason and prioritize.
- Trust in others is guarded.
- Strong humanitarian trait present; almost a natural instinct.
- Desire for more specific information.
- Current education materials give hope but not confidence.
- The focus group session is the first step to having a well informed community.

Results of Qualitative Analysis by Conceptual Domain:

Pre-Event Knowledge

Color Alert System

Protection of Self from Attack

Meaning of Chemical, Nuclear, Biological Attacks

Guideline did not include this section.

Scenario 1—Non-Specific Agent

Emotional Response—what participants feel

- Participants indicated a sense of desperation, inability to reason, shock.
- Participants indicated a feeling that they were going to die.
- Quote—Section 1.1.1 Line 69: “Normally in such cases we lose our sense of reason and we do not even know what we are doing”.

Knowledge—what participants believe

- Participants indicate that an information dissemination mechanism should already be in place and should already have people prepared.
- If the public were to have talks such as this one more often, it seems that when and if there ever were to be a terrorist attack, people would be calm and have hope, despite the situation.
- In this way, perhaps people would not obstruct or delay the work of the authorities who would be attempting to provide aid.
- We then are able to reason; we may know we are going to die, but we take things calmly, do not panic, keep those around us calm, and keep them from suffering.
- Participants would want an information bulletin by mail.

Actions—what participants would do

- Participants indicated a need to run, look for help, and go to a shelter.
- Participants indicated the need to remain calm, prioritize, not get excited, and not try to do more than able.
- Someone in the group needs to be calm, brave, strong, and think of where to begin.
- Read the news, never turn off the television, never leave the radio without batteries, and follow directions given by authorities.
- Participants say that in a nuclear attack there is no way out; in those moments they turn to God.
- Participants say they would remain calm, not despair, and stay tuned to the radio and television reports.
- They claim it is not about knowing when it will occur, it is about being prepared for what may occur.

- Participants would run to Wal-Mart to purchase equipment, prepare windows, reserve water and medications.
- They would protect the young and elderly neighbors; help others.
- Stay where they are; closets are safe; take mattress, blankets, and water into the closet.
- Given the first alert, by second report they would be somewhat prepared with masks, suits or some body protection.
- Participants would go to underground shelter; would need to keep it clean and equipped—not everybody can afford to have one, but little by little with determination they can begin preparations so if there is ever a need, the underground shelter would be available.
- Quotes—Section 1.1.1

Line 69: “begin to prioritize and do not get excited”.

Line 69: “someone needs to be the brave one, be strong, and begin to think where to begin”.

Line 75: “when there is a nuclear attack there is no way out; in those moments we think of God because when it is this type of attack, there is no where to go”.

Line 87: “it is not about when, but about being prepared to prevent what may happen”.

Information Seeking—

What information is wanted by participants

- Participants indicated they want to know ways to protect themselves; how to protect themselves.
- What type of things should we use in such an attack or other types of attacks.
- Receive correct information regarding what it is, its composition; for instance if it is a bacteriologic attack, what is the bacteria, how can it harm them, what can we eat or not eat, what can we handle or not handle.

Where would participants get information

- Participants indicated that television, the police department, the hospitals, flyers; the most prepared are the police and the fire departments.
- Participant indicated that battery-driven radio is key.

Participant credible sources

No themes found.

Scenario 2—Symptoms

Emotional Response—what participants feel

- Participants feel strange.

Knowledge—What participants believe

- Participants indicated that in case they were unharmed and could do something, there are times we want to help others, but alone one cannot be of help.
- But if it is a nuclear attack, we cannot help; not even a minimal hope or desire to help. With a chemical or bacteriologic attack you can help; nuclear is another story. Simply to go outside we do not know the consequences we confront.
- Anyone can go and deliver a flyer and it could be the terrorist. A person in the community can take advantage in times of confusion; make copies and the contact is made.
- If authorities are going to use flyers as a means of information dissemination, it needs to be before the event we want to prevent.
- The fact is that this would not even matter; if the situation is about a neighbor, a son, a brother being affected, we would not refrain from the danger of self contamination. We would not refrain from assisting and provide protection immediately; you would not think about the danger you would impose on yourself. At that moment you do not think of protecting self, but in protecting others—if you are a humanitarian.

Action—What participants would do

- Participants indicated that they would run towards those who needed help; help the disabled and the children.
- There are masks to protect self though it would not protect the skin that could be harmed. But while one can breathe, there is no telling how many people you could help—a mask could be very helpful.
- By the second notification, you are somewhat prepared with masks or with a gear to protect the body so not to cause too much harm; underground shelter—try to protect self.
- If people were given information before things happen so in case of an attack and radio or television not available, the majority of people would know what to do and could help those that did not know.
- We need to search for information that tells us what to do.
- We say protect, protect ourselves, but at that moment we only think of protecting others and do not think that if we go out, we will contaminate those within.
- If there is one son contaminated outside and there are four sons inside, it would be extremely difficult to decide not to open the door in order to save the uncontaminated family members because that would mean losing one of five sons.
- I have a cellular phone and can ask that authorities send a booklet on how to prevent an attack.

Information Seeking—

What information wanted by participants

- Participants want to know what we have to do in such a case; we need to know specific information.
- If television is still available, this would be the only manner to know the information.
- Participant indicated that a flyer would be desirable to know that we can prepare to prevent harm from this type of attack.
- For example in a chemical attack, list what the person should do; three or four things to do with correct explanations so that when we receive the news of an attack, we will be prepared because we already have the flyer on each possible attack.
- Participants want to know how to protect themselves.
- For example when the physician gives you a booklet that says if you have this reaction you may have this illness, we know what type of reactions our bodies will have and when.

- Participants want to know what measures the president is taking to resolve the issues; because they want to have hope that this will be resolved. They want to know how long we will be in this situation and how will we be affected.

Where would participants get information

- The flyers would be very helpful; it would be like a first aid book that tells you what to do.
- In case there is no communication due to the attack, a booklet with the type of attack, consequences, and steps to take could serve as a guide.
- The news communicates to the community that authorities are being truthful that those interested in a prevention flyer can pickup the information at the fire department.
- Booklets or magazines.
- Get pencil and paper to record information or simply pickup a flyer at the fire or police station.
- If you are going to provide flyers, which is the most appropriate thing to do, intelligent people will give it before an event occurs.

Participant credible sources

No themes found.

Scenario 3—Agents, Symptoms, & Response

Emotional Response—What participants feel

- Participants feel worried and in fear.
- Feel that this is already here.
- Quote: Section 5 Line 487: “get grounded because it is here; it is not about supposing, it is something that is already here—that it is coming, it is coming”.

Knowledge—What participants believe

- The police or whoever is giving the information will be the one to direct us; whatever we have or do is in vane because they will move us.
- The case is like this; that if the flyers have already been prepared some time ago, we can suppose that the authorities will be secure and those that do not know and by chance hear about it, need to come together regarding this.
- What if they were to tell you that in this area there is going to be a natural disaster; here are all the areas to evacuate and here are all the areas of shelter. What if the disaster is natural and it directs itself exactly where you are headed and it takes you by surprise.

Action—what participants would do

- There would be four shelters; north, south, east, and west. You move to where you are closest—avoid crowdedness.
- If we are in a safe place, there is no reason to leave. If we were to not be in a safe place, then we will be on the alert for news from authorities giving direction.
- We need to do things calmly giving time to listen. In times when something like this occurs, people are disturbed and agitated and do not pay attention. This is one of the reasons they tell you to stay where you are; later they provide additional guidance.

Information Seeking—

What information is wanted by participants

- To know how radiation travels, how it covers areas, how it comes.
- To know what type of radiation and how to protect ourselves.
- What are the consequences of radiation and how many types are there.
- What are the possibilities of a house surviving over a building.
- What type of clothing should we wear.
- What chances do we have of survival; mostly is there a chance.
- If we have been contaminated and are inside our home, what can we do at that moment.
- A case scenario, I arrive from work, from the outside and do not notice that I have been contaminated and do not take precautions with clothing, etc. Do I go outside since I am contaminated and what about the others in the house?
- What do we do in case of an emergency? You cannot find a way to help someone because if you go outside you make the situation worse.
- What type of radiation and what way can we help the individual?

Where would participants get information

- Participants indicate desire to have flyers at hand.
- Participants suggested a dial-up recorded information message system with options to record and maintain the appropriate information.
- Conduct practicums and simulations in groups.
- Conduct actual simulations on what to do at that very moment.

Participant credible sources

- Conduct this type of group sessions more often.
- Quote—Section 5 Line 564: “I think the ideal thing would be to give us frequent talks”.

Scenario 4—Release of Information

Comprehension of Materials—

What was learned or main points

- People outside should take off clothing and cover with blanket to get to bath.
- If there is radar that detects the levels, this makes us more confident.
- Have water and food instead of refuge.
- In the place of refuge, have a route of evacuation and take your things with you because who will call you there—you must be prepared in the shelter.

Additional information needed

- Provide other information for other types of terrorist attack.
- What amount of water and food should we reserve.
- How long would this last.

- Inform them of locations of shelters and evacuation sites for people coming from other cities who are not yet informed.
- What type of radiation was used in Hiroshima and Nagasaki.
- What can we expect today.
- How to prevent it and how to combat it internally and externally.
- Do we have medication to treat it if it occurs.
- That we be informed for instance if it is in the water, that we are assured that the water is safe or that a purifier would be sold.
- If the water is contaminated, know how to decontaminate or filter the water.

Understanding of the risk

No themes found.

Knowledge of where to turn for information

No themes found.

Emotional Response—

How materials made participants feel

- Do not think materials gave confidence, but rather hope that there will not be much harm done in the attack.
- Lost fear.
- Scared that it is invisible; not being able to detect it.
- To breathe a little, gives hope.
- Do not think it is confidence, but rather the hope that there will not be much harm done by the attack.

How materials could be changed to trigger fewer emotions

No themes found.

Credibility—

Credibility of print materials

- Very credible because it is an institution dedicated to research and learning.

How can credibility be increased

- No themes found.

Anything participants feel was not disclosed

- What am I going to do if I am unaware that I am contaminated and I contaminate others—what can I do then?
- It is important to know how to detect if the person is contaminated.
- What symptoms can be detected.

Self Efficacy—

Ability to follow recommended actions

- No themes found.

Belief that recommended actions will lead to good outcome

- No themes found.

Participant's confidence in the recommended actions for safety; what to do

- Advice on taking our clothes off.
- It is not the confidence but the hope that the harm will not be great and that something will lessen the danger in survival.
- If we learn and follow through then should the day ever come God forbid, some people will be knowledgeable as to what we should do. I think we can prevent, not everything, but at least prevent some things.
- When I came here I felt like a soldier without arms and now I feel like I carry a canon in front of me. Come what may, at least now we are informed.

Participant's confidence for understanding of the risks of event/disease

- No themes found.

Knowledge of where to turn for information

- No themes found.

Improvement—

Print Materials

- No themes found.

Other Methods: dissemination and channels of information

- A simple flyer without envelope can be distributed by mail and people must have trust that it is safe to receive it—It may not be possible to do door-to-door.
- Through the schools people receive flyers regarding upcoming events.
- Put signage in city entries or information for new comers regarding how to obtain information,
- How wonderful it would be to distribute flyer to every new person coming into the city. In my free time, I would go door-to-door distributing flyers as my way to promote prevention.
- Universities are more educated than the presidency to provide a practicum or talk with movie stars promoting the event or television spot.
- Call a telephone number where person is on the air two to three hours answering the questions the public may have.

Perceptions of Government—

What government agencies are mentioned

- No themes found.

Trust/credibility of elected officials/government representatives

- Though we know terrorist attack can occur, the government oversees defense in effort to prevent attacks from occurring, but may not be able to avoid it.
- May not be able to prevent it, but president will not let his nation be harmed.

Response of government systems

- No themes found.

Perceptions of Emergency Response Systems & Media—

Perceptions of first responders

- Fire departments and the city mayor have registered every place that has an underground shelter.
- In case we were to be left underground and were unable to communicate with the outside, the rescuers would come to locations they know. If we make a shelter and do not report it, may not be detected if family is not aware of location.

Perceptions of health and human service providers

- No themes found.

Perceptions of media

- Television and radio will never tell you what you want to hear.

Miscellaneous—

General knowledge

- Schools are teaching terrorist attack prevention but not as in depth as in this session. My son has brought information home.
- Perhaps have something simple like purified water companies show you how to use purified water, there could be something in our home we could utilize.
- Living out in the country, you get flyers on purchasing water systems, but they are so expensive only the rich can afford this—perhaps there could be something more economical.

UCLA Focus Group #8: Topline Report

Agent: *Radiation*
Population: *Asian Urban*

Demographics

Of the 15 participants in this group, all 15 completed demographic forms. In general, this group can be characterized as:

- Asian/Pacific Islanders, many Vietnamese
- relatively young – median age was 25 years
- highly educated – 60% had college or graduate degrees, another 33% had completed at least some college
- mostly employed and representing a large range of occupations and incomes, including several persons who work or are students in health-related fields

Gender, age, marital status and children: The group was approximately two-thirds male and one-third female. Participants ranged in age from 19 to 72 years old, with the mean age of the group being 33 years. The median age was 25 years. One person did not give his/her age. Approximately 66% of the participants reported being single. The other 33% were married. Five of the participants, 33%, reported having children. Only one has any children under the age of 18 years.

Ethnicity and language: All but one of the participants identified their ethnicity as Asian/Pacific Islander. One identified as “Samoan.” Ten persons, 66%, in the group reported speaking mostly English in their home. Other languages reported were Vietnamese (n=4) and French (n=1).

Education, occupation and income: Education level for individuals in the group ranged from having a high school diploma or GED to having completed a graduate degree (see Table 1). Approximately 60% reported having completed a college or graduate degree. Another 33% had completed at least some college. Seventy-three percent of the focus group reported currently being employed. Three of the participants gave their occupation as “student,” one of whom is working on his/her medical and public health degrees. Two persons identified themselves as being in sales. Other occupations given included: safety engineer, 411 operator, interior designer, psychotherapist, restaurant manager, social worker, conference/event associate, program coordinator, health educator, and retiree. Several of the participants were identified as working in fields related to health, safety, and/or emergencies. The median income category for the group was \$50,000-\$59,999 per year (see Table 2).

TABLE 1: Highest level school completed (n=15)

	<u>No.</u>	<u>Percent</u>
Less than high school	-	-
Some high school	-	-
High school diploma or GED	1	7%
Some college	5	33%
College degree	7	47%
Graduate degree	2	13%
Total	15	
<i>Agent: Radiological/nuclear</i>		
<i>Target group: Asian urban</i>		

TABLE 2: Family income in the year 2002 (n=12)

	<u>No.</u>	<u>Percent</u>
Less than \$10,000	1	7%
\$10,000 - \$19,999	1	7%
\$20,000 - \$29,999	2	13%
\$30,000 - \$39,999	2	13%
\$40,000 - \$49,999	-	-
\$50,000 - \$59,999	1	7%
\$60,000 - \$69,999	1	7%
\$70,000 - \$79,999	3	20%
\$80,000 - \$89,999	-	-
\$90,000 - \$99,999	-	-
\$100,000 or more	3	20%
Missing	1	7%
Total	15	
<i>Agent: Radiological/nuclear</i>		
<i>Target group: Asian urban</i>		

Overview

This group was generally very talkative. Participants were recruited from a community health organization. The group was an interesting mix of college students and older professionals. One major theme that emerged from this group was distrust of government.

Pre-Event Knowledge

Focus group participants had a basic understanding of the color alert system. The overriding sentiment was that the system does not effectively warn, protect or educate the public. A few participants, however, mentioned that they “take the system seriously.”

- “When it is the highest level it is scary.”
- “There are so many colors, ok, nobody pays attention anyway.”
- “. . . It seems that we are always in alert and that we are always fearful like anthrax and all that. . .I’m tired you know, it is not happening.”
- “. . .There is an alert but what is the thing that you need to do? There is really nothing telling us now what to do.”

Knowledge of pre-event emergency preparedness and meanings of various terrorist agents were not discussed in this group.

Emotional Response

When faced with the threat of a radiological terrorist attack, participants expressed fear, worry, and cautiousness. Through Parts 2 and 3 of the scenario, they felt increasingly scared and unsure.

- “I would be worried about my family.” (ER.NSA.FL)
- “I would be cautious. . .” (ER.NSA.FL)
- “I would worry.” (ER.SYM.FL)
- “It is serious. You get scared.” (ER.ASR.FL)
- “I would be confused. . .” (ER.ASR.FL)

Knowledge

There was a

- “F

Actions

In response to

- “I may go and find out more information. . .I would continue with my daily activities but maybe like turn on the radio . . .” (A.NSA)
- “I would question validity but I would keep on with my daily activities.” (A.NSA)
- “For radiation I will stay put. What else can you do.” (A.NSA)

Information Seeking

When faced with Part 1 of the scenario, respondents felt strongly that . Internet

- “Who is

Participants agreed that they would contact many diff courses

- “The big problem I see is that we are in the information age. . .The best thing to do is go and research where these things are coming from. “

Release of Information

Perceptions of credibility and self efficacy were

- “When

Recommendations for Improvement

Suggestions included

- “Maybe [

Response to Government

Doubts about the Bush administration,

- “I think they are definitely trying but I feel like we are putting a lot of money into protecting [the] unpredictable.”
- “I always question the government.”

- “If the government actually cared about our safety they would try to make peace with other countries and not create more chaos.”
- “The US government will tell you what they want. They never talk about stuff like over 500,000 have been killed for US safety. . .”

Perceptions of Emergency Response Systems

Discussion regarding emergency response systems

UCLA Focus Group #9: Topline Report

Agent: *Radiation*

Population: *ESL*

Demographics

Of the 15 participants in this group, 14 completed demographic forms. This demographic summary is based on these 14 participants. In general, this group can be characterized as:

- mostly Latino/Hispanic
- “English as a second language” speakers, with almost all reporting Spanish as his/her primary language
- relatively young (average age 32 years)
- mostly non-married, non-parents
- mostly employed
- having limited education and low income levels

Gender, age, marital status and children: The group was approximately 43% male and 57% female. Participants ranged in age from 18 to 57 years old, with the mean age of the group being 32 years. Half of the participants reported being single. Approximately 36% reported being married or living with a partner. One participant reported being divorced or separated and one reported being widowed. Five participants, 36%, said that they have children and that at least one of their children is under 18 years of age.

Ethnicity and language: Except for one participant who was Asian/Pacific Islander, the ethnicity of group participants was Latino/Hispanic. Two persons in the group reported speaking mostly English in his/her home. Eleven, 79%, reported speaking mostly Spanish. One participant did not specify the language spoken in his/her home.

Education, occupation and income: Education level for individuals in the group ranged from not completing high school to having completed some college (see Table 1). Approximately 79% of the focus group participants reported currently being employed in a variety of occupations. These occupations included:

Bar back	Housekeeper	Moving crew
Cashier	Housewife	Nurse’s aid
Driver	Janitor	Student
Electrician	Jeweler	

One of the participants reported being a health care worker (nurse’s aid). The median family income category for the group was \$10,000-\$19,999 per year (see Table 2).

TABLE 1: Highest level school completed (n=14)		
	<u>No.</u>	<u>Percent</u>
Less than high school	7	50%
Some high school	2	14%
High school diploma or GED	4	29%
Some college	1	7%
College degree	-	-
Graduate degree	-	-
Total	14	
<i>Agent: Radiological/nuclear</i>		
<i>Target group: English as a Second Language</i>		

TABLE 2: Family income in the year 2002 (n=14)		
	<u>No.</u>	<u>Percent</u>
Less than \$10,000	5	36%
\$10,000 - \$19,999	5	36%
\$20,000 - \$29,999	1	7%
\$30,000 - \$39,999	-	-
\$40,000 - \$49,999	1	7%
Missing, refused	2	14%
Total	14	
<i>Agent: Radiological/nuclear</i>		
<i>Target group: English as a Second Language</i>		

Overview

This focus group took place at an adult school for English as a Second Language. Levels of comprehension did not appear to coincide with declarations of self-efficacy and understanding.

Pre-Event Knowledge

Focus group participants had a basic understanding of the color alert system. They agreed that red and orange signified more danger than the other colors.

- “They have red, orange and green. . .the red is the one [if] somebody is going to attack us right now, this minute.”
- “Red means emergency.”
- “I think yellow is being alert . . .red, it means that everybody is dangerous.”

Suggested ways to prepare for an attack included a vague mention of “emergency supplies.” When prompted, participants mentioned a radio, water, and food. One participant suggested creating an emergency response plan.

- “I think. . .a radio with batteries, so if there is no power. . .we can hear about what’s happening, where we can go.”
- “You need to make a plan and talk to [your children] about it and where you can contact them or something like that.”

Emotional Response

When faced with Part 1 of the plague scenario, participants all agreed that they felt scared. Other emotions included nervousness, sadness, depression, anger, and helplessness. These feelings increased as the scenario progressed.

- “[I feel] very, very bad. They. . kill a lot of people.” (Part 2)
- “It’s really bad.” (Part 3)

Knowledge

There was a general consensus, after reading the first excerpt, that “shelter in place” means to “go to a safe house” or “safe place.” Beyond that, participants vocalized minimal knowledge.

- “FEMA provides a lot of help and . . .money and support for people that don’t have any. . .to survive in that time [of disaster].”
- “[Shelter in place] means a place to stay for a while.”

Actions

In response to the radiological scenario, participants anticipated engaging in information-seeking and determining how to protect themselves and their families. A number of participants agreed that they might “go and hide.”

- “[I would try to be] calm. Calm down.” (Part 1)
- “Call the police.” (Part 1)
- “[Find out how to] protect [myself.]” (Part 2)
- “Call 911. . .you can call 411 and they give out information.” (Part 2)

Information Seeking

When faced with Part 1 of the scenario, respondents felt strongly that they “want[ed] to know what’s going to be happening.” Through Parts 2 and 3, participants wondered primarily about the definition of radiation and ways to protect themselves. Questions included:

- “Who is gonna pay for my medical doctors or bills?” (Part 1)
- “Are they [the government] prepared?” (Part 1)
- “We don’t know anything about nuclear bombs. We don’t know anything about radiation bombs. . .we don’t have information about that.” (Part 2)
- “We want to know. . who’s going to respond to this.” (Part 3)

Participants agreed that they would contact the Red Cross, FEMA, the fire department, the police, local schools, and hospitals in order to find information. They also hypothesized that there may be a local government office in place to distribute information. Television and radio were mentioned as trusted sources, with television taking a primary role.

- “I think the city. . .[has] a specific office to give the information about all this.”
- “Write a letter or ask [the] council or chairman. Every city has a council. They might have information for the community.”
- “The news channels say the truth about what happened.”
- “If you’re going to listen in English, you’re not going to understand all the news. . .”

Release of Information

Perceptions of credibility and self efficacy were uniformly high, and reaction to the materials was largely positive. Respondents characterized the fact sheets as “very good” and containing a lot of “good information.” It should be noted, however, that these comments do not necessarily indicate comprehension of the materials. Subsequent discussion and questions revealed that comprehension was far less than complete.

The group did agree that the section regarding external and internal contamination was difficult to understand. Unanswered questions include:

- “When we talk about community leaders, who are they?” (Excerpt 1)
- “Do you think it’s a good idea to stay at work?” (Excerpt 1)
- “What happens if you are driving when it’s happening?” (Excerpt 1)
- “What is radiation?” (Excerpt 1)
- “What is the difference between x-rays and radiation?” (Excerpt 2)
- “I think many people [are] not going to understand radiation inside and outside.”

Recommendations for Improvement

Suggestions included adding information “about the medical systems” and making the materials more accessible through translations and graphics.

- “Maybe [add] pictures. . .some people can’t read.” (Excerpt 1)
- “Have a lot of . . . shelter places.” (Excerpt 1)
- “I would like to know about the symptoms.” (Excerpt 2)
- “[Add] what is the first thing you do.”

Response to Government

Discussion regarding the government was limited to the consensus that the government has a responsibility to provide services in the event of a disaster.

Perceptions of Emergency Response Systems

Discussion regarding emergency response systems was minimal.

SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT

Summary Report

Population: American Indian

Agent: Radiation

Region: Oklahoma

Focus group date: 7/25/03

Intercoder reliability:80%

Prepared by the Department of Health Promotion Sciences

University of Oklahoma College of Public Health

Report date: August 29, 2003

GROUP CHARACTERISTICS

The focus group was held in Talihina, Oklahoma at the Choctaw Nation Health Care Center Hospitality House. Talihina is located in a fairly remote rural area. Many of the participants were employees of the Choctaw tribe of Oklahoma.

Demographics of the group are presented in Table 1.

Characteristic	Category	N (%)	Mean/SD
Age	Missing	12 (100) 0	56.25/16.39
Sex	Male	6 (50)	
	Female	6 (50)	
	Missing	0	
Education	Less than high school	1 (8.3)	
	Some high school	0	
	High school diploma or GED	4 (33.3)	
	Some college	6 (50)	
	College degree	0	
	Graduate degree	1 (8.3)	
	Missing	0	
Ethnicity/race	African American/Black	0	
	American Indian/Alaska Native	9 (75)	
	Caucasian/White	1 (8.3)	
	Other	0	
	Other (specified)	1 (8.3)	
	Missing	1 (8.3)	
Language in home	English	12 (100)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Marital status	Single	2 (16.7)	
	Married or living with partner	3 (25.0)	
	Divorced or separated	3 (25.0)	
	Widowed	3 (25.0)	
	Missing	1 (8.3)	
Children	Yes	10 (83.3)	
	No	1 (8.3)	
	Missing	1 (8.3)	
Employment	Yes	11 (91.7)	
	No	0	
	Missing	1 (8.3)	
Family income	Less than \$10,000	1 (8.3)	
	\$10,000-\$19,999	4 (33.3)	
	\$20,000-\$29,999	3 (25.0)	
	\$30,000-\$39,999	1 (8.3)	
	\$40,000-\$49,999	0	
	\$50,000-\$59,999	0	
	\$60,000-\$69,999	0	
	\$70,000-\$79,999	2 (16.7)	
	\$80,000-\$89,999	0	
	\$90,000-\$99,999	0	
	\$100,000 or more	0	
	Missing	1 (8.3)	

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- In response to the scenarios, participants expressed emotions of fear, panic and/or shock.
- Location and protection of family was of primary concern.
- Information sources included CNN, the tribal hospital and representatives, high value placed on radios, police loudspeakers, and Civil Defense. Internet and cellular phones were considered unusable in this rural area.
- It was felt that newscasters sensationalize the disaster and make it appear worse than is actually true, in order to garner attention, and were not trustworthy sources of information.
- It was desired that full information be received, but there were concerns that some of the information would be withheld.
- Regarding the pre-event materials, participants felt that they were credible and logical, but intuitive. Most felt that information from the materials would help to keep them safe, and they were confident that they could carry out the action steps listed.
- Gaps in the post-event materials (regarding types of contamination) included duration of the contamination, symptoms of contamination, damage to the body, contamination of food sources, including wild game, and contamination of water supplies. Action steps to be carried out after exposure were requested.
- Due to the nature of rural living, many families “put up” food and have stores of canned food and water supplies. The elders were said to have the greatest chance of surviving because they have knowledge of subsistence skills not possessed by younger persons.
- Limited use of TV for some due to remote residential locations without TV cable, or with poor reception of broadcast signal, and unable to afford satellite.

Results of qualitative analysis, by conceptual domain:

Pre-event knowledge

What is participants’ current awareness of the CAS, precautions, and different threats?

This domain was not included on the Focus Group guidelines as posted on the web

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- The first scenario evoked talk about protection of family.
 - Most stated that they would remain at home.
- p. 2 “I’d be scared to death.”
- p. 2 “How do I protect my family?”
- p. 4 “I’d want to stay home and try to seal everything off.”
- p. 4 “I’m going to start praying.”
- The second scenario evoked emotions of fear, shock, and panic.
 - Most still would remain at home, but the possibility of evacuation was discussed.
 - Protection of family was a concern
- p. 12 “Well, I’m wanting to stay where I am, for whatever happens, until I learn what to do.”

p. 12 “Since I live locally, I’d check on my sister, she lives right behind me.”

- The third scenario evoked fear.
 - Concern was raised about the contamination of wild game and well water.
 - Concern was raised about how to get decontaminated.
 - Concern was raised about protection of family.

p. 20 “I said, I wondered if I was going to die or not.”

p. 20 “Yeah, you panic.”

p. 20 “One thing I’d think of is just to probably get decontaminated, you know, if I had these clothes on, all these clothes. Get them off, some more on, take a shower, and you know go through all the procedures, like.”

p. 22 “Well, the first thing, I’d try to protect my own family first before getting involved with somebody else. Let the law take care of their part. Don’t drive the highway where they can get out, the one’s that are not hurt. But I’d protect my family. They might come around and ask me to help later, but I’d protect my family first.”

What do participants want to know in the event of an emergency?

- How to protect the family.
- Sources of open communication.
- Likelihood of contamination of food and water.
 - Safety of wild game consumption.
 - Safety of well water
- Symptoms of contamination.
- Geographic area of contamination.
- Duration of danger period.

p. 2 “How do I protect my family?”

p. 15 “For evacuation, what’s your line of communication regarding, you know...I have family over here and family over there, and I need to find out, you know, what their particular situation is, their well-being or whatever.”

p. 15 “Wouldn’t anybody want to know whether our food and water sources had been contaminated?”

p. 22 “One of the first things you’re going to need to know, what are the visible signs of contamination, if any.”

p. 13 “...And you’re wondering how big of an area this is going to contaminate. How far it’s going to reach because you won’t know even if it does touch you.”

p. 17 “...I might want to know what length of time am I going to have to stay in that state until it’s cleaned up, or what.”

Where do participants seek information in the event of an emergency and why?

- Choctaw Nation Health Care Center (hospital)
- CNN
- Radio
- Battery operated radios
- Tribal Police
- Civil Defense
- Police loudspeakers
- Police scanners

- Word of mouth (small town)
- Most would like full information, even if emotionally upsetting.
- Some felt that full information would be withheld.

p. 8 “I get my TV from satellite, you know, you can’t get—you’re lucky if you get one channel it’s really fuzzy, and radio stations, I might be able to pick up one out of Texas, once in awhile... if I was at home, you know, like I’d said I would probably turn on the TV and then I’d probably just have to make some calls and maybe call... the County Sheriff’s Office or something. You know, that’s probably as local for me as it gets. Because I live out like in a rural area, so we probably get, you know, there’s not anything around here.”

p. 10 “I’d say our local police, or our tribal police, because they get all of these first, you know, most of the time.”

p. 16 “I think the radio is ideal. That there radio is either ran by electricity or battery. You may have your electricity knocked out, so radio is going to be your best source. We all don’t have scanners, and we’re all not going to be able to get through on the telephone, if the telephone lines are knocked down, I mean. The radio is probably going to be your best source of broadcast of information on there.”

p. 18 “Radio (is best) because most homes have radio. I mean it’s going to be your best outlet.”

p. 35 “That’s the whole nature of terrorism anyways, counting on people panicking, and the way you do, you know the way you do terrorism is a small act, and not knowing when they’re going to come, or what they’re going to be. So, I say the more information you can get out there, you know, the better...I’d have that worst case scenario running through my head. You know, as long as you KNOW, see, even if it’s a bad thing...at least you can start dealing with it. That would help fear obviously, not just knowing, even if it’s a bad thing.”

p. 35 “It would be unknown, because I know so little about it. If it’s something you know about, even though it’s bad, you can deal with it.”

p. 36 “Yeah, I first said that we’re used to it, that’s how the medium works, they really don’t give you all of it.”

What are participants’ perceptions about government and preparedness?

Not evident from the transcript.

What are participants’ perceptions about the role of the media?

- Newscasters and politicians “play up” the disaster and make it appear worse than is actually true, in order to garner attention.

p. 36 “They can over-simplify things a lot or they can make things ways out of proportion, too, and make a little thing seem like it’s really something extremely important. And once all the facts come in it wasn’t quite what...”

What are other participants’ perceptions of interest?

- Due to the nature of rural living, many families “put up” food and have stores of canned food, water supplies, and first aid materials.
- The elders were said to have the greatest chance of surviving because they have knowledge of subsistence skills not possessed by younger persons.

- p. 18 “I can get most of this stuff...most of it ready at all times. Living out in the country a lot of times we get a lot of stuff, we get power outages. I keep a lot of battery-operated stuff, and I do keep a lot of bandaids, you know, and our well water is not very good, so we drink, you know, we keep bottled water, you know. I think I keep most of this already. Because we’re so far away from anything, a lot of times we have to take care of stuff at home, you know, until we get a doctor; things like meds and stuff.”
- p. 26 “We don’t put up food like stuff and the older people does. My mother is 80, and my gosh, she’s got her freezer full, under her bed she has got canned food. She has made jelly, she has made pickles, and she’ll say, well, if I don’t use it, one of these days I might have to, or my kids too. And her freezer is full of stuff she’s got from her garden. She works two gardens and everything. Cans every year in the hot, not with the fan on her, no air-conditioner, or nothing.”
- p. 26 “If the electric didn’t go out or something, mom she still keeps two freezers plum full, and you know, not to mention all the canned stuff. Mainly I wonder how long you COULD live in that house, really.”
- p. 27 “I think the old ones are more survivable than the younger ones are.”

Materials pre-test response

How well do preliminary message materials address information needs?

- The delineation of pre-event action steps were remarked.

p. 16 “It tells you what to do.”

p. 17 “It’s enough to help you prepare stuff, you know.”

What are unmet information needs?

- Materials did not address the duration of the contamination.
- Materials did not address symptoms of contamination or damage to the body.
- Action steps to be carried out after exposure (post-event) were requested.

p. 28 “How long is this radiation going to last?”

p. 28 “What are the symptoms of it?”

p. 29 “What about the internal contamination? What is that going to cause, in like I mean, as far as exposure to it?”

p. 28 “...I’m going to want to know, if I know what symptoms and I think I’m contaminated, exactly what steps I do need to do. I don’t want to just take off and create a worse problem. I want to know exactly where I need to go...I want to know what to do.”

p. 35 “You know most of our people (tribal Nation) are on some type of medication. How does this medication react to this type of foreign object that’s coming into your body? You now, how does that mix? What will that do to us?”

How do participants respond emotionally to preliminary message materials?

- Emotions were not expressed in reaction to the materials. Feedback was given relevant to other aspects of the materials, and the participants explained what other information was needed in the materials.

How credible are the preliminary message materials?

- Participants thought the materials were logical and believable, but also intuitive.

p. 16 “It’s just kind of instinct to want to do these things, even if it weren’t right, to get to a safe area and stuff, to me.”

p. 16 “It’s logical.”

p. 19 “It’s easy to understand.” (first set of materials)

How successful are materials in fostering self-efficacy?

- Participants felt that the steps cited in the materials would help to keep them safe.
- Participants were confident that they could carry out instructions.

p. 18 “As safe as you can be.”

p. 18 “Pretty confident.”

p. 18 “Very confident.”

What are participants’ recommendations for improving the materials?

None

What are other participants’ recommendations for preparedness?

- Use of sirens as warning devices for terrorist attacks.

UAB- First Responder-Nuclear

Scenario, Part 1

Emotionally you feel what?

- “Hear we go again.”
- “I mean we’ve been giving so many of these threats, this is the only reliable information and nothing has happened”
- “every time we go to one of these meetings there is some apparent immediate threat that has occurred or is suspected and the reality is we haven’t seen any of them yet.”

Immediate Concerns

- Taking care of family, then heading to work.
- Concerns about co-workers “brothers”
- Is training and equipment “up to it”
- Following “procedures and SOPs”. From a professional point of view, “I’d be headed to the policy and procedures to make sure I was on my toes to be doing what I was suppose to be doing.”
- Participant would want to stay informed. “Watching CNN.” “You want to be aware of and keep up with everything so if it happens, you can start responding....”
- Staffing issues, Calling people back from vacation, etc.
- Increase in run rates.
- Hoaxes
- Communications

Information wanted now (after threat)

- Resources?
- Suspected targets
- Nature of threat
- Nature of information to “put us on a code red”.
 - (Suspected targets, nature of threat, nature of info all to allow them to “know what to look for, what to be preparing for”.

Where do you go for information?

- CNN
- Computer, CNN cite
- Local affiliates TV stations

Scenario, Part II

Emotionally you feel what?

- Disbelief
- Worry about family and work

Immediate concerns?

- Family
 - Get them to a safe, protected environment
- Work
 - Finding out officially “What is going on?” “What do we know?” Where to report.

- Strategically -
 - Site Control - “location” of blast. “Which way the wind is blowing?” “How am I going to need to move?” “we want to keep contamination in and people have a tendency to want to run away”
 - Setting up command.
 - Activating EOC.
 - Response activities
 - Triage
 - Preventing “chaos” at ERs by setting up triage points
 - Patient Transport
 - Keeping corridors open to hospitals
 - Decontamination activities
- Co-workers or “anyone I know” hurt or killed
- How can I do my job and protect myself
- Prevent panic (Within department & public)
 - Within department: Panic if it starts “will start at the top”
 - Public: Having a trusting person addressing them in a calm way giving specific information on what to do or where to go. (Weather Man, Chief of Police, Chief of the FD, County Commissioner (grandmother type figure))
- Critical Incident Stress issues “there would be so many emotions going on that you would really have to keep your mind straight to keep focused on what you are doing”
 - Anger “I hate to say this but I would be thinking about those people that was to cheap to buy us decent equipment.”
- Staffing issues, Relief workers
- Keeping departments responding to usual calls. “life goes on”

Scenario, Part III

Emotionally you feel what?

- Relief
 - “Feel better because it is a relatively isolated event”
 - “now it seems controllable”
 - “it certainly sounds from this as though, we’ve got a plan, the plan is in place, the plan is operational”
 - For the first time having fact based information and not conjecture or panic based information
- Worry (about strategically issues and planning)
 - Routes to hospitals
 - EOC becoming operational “it would take time to get organized”

Immediate Concerns

- Secondary devices
- Structural integrity of surrounding buildings
- Resource evaluation
- Staffing, Relief staffing, Equipment replacement
- Get back to a sense of normality in routines and procedures
- Critical facilities operational?
- Information gathering

Materials

- “Stuff I already knew” “Overall this is pretty basic stuff” “good information for the general public”
- Belief: “It wouldn’t even come down to the general fireman anyway.”, “All of our information would come from number seven (command)”
- Would like more information of the **KI**, side effects, where to get it.
- “Who is in charge (section), wouldn’t matter [to general firefighter}. (Operate under ICS).
- Protective measures, monitoring, decontamination “we have sufficient equipment to do all that” [FD}
- “no idea where to get a dosimeter” [PD]
- Question the top of the educational material section, “whether it was thrown in as filler” “might be confusing to people” “We are talking cellphones and microwaves. If you took this little block right here and said “the radiation emitted from a nuclear device is of this type, this is what it is capable of doing to you and this is what you do to protect yourself, a.b.c.” [dump the top half of it]
- “Don’t know what type of radiation was released” “I just think it might be helpful, if more information was given about the type of radiation” involved in explosion
- Format, being one page, simple enough, “so I think overall it would work”
- Reorganize white part of the page: “first thing should be “what precautions do I need to take to protect myself and others from excessive radiation”, then second, “how will I monitor my radiation dosage”, the third “should I take KI” or “what should I take if I am exposed” and then explain KI. Then “what do I do with contaminated items”. [Earlier discussed that “who is in charge” is already mandated for them, ICS]

Interesting comments:

When talking about threats, one expressed that every time they hear a new threat, and nothing happens, “I think every time they pull this trick our effectiveness goes down a little bit”.

“And I think, hey this is novel, this one is going to involve radiation or nuclear materials, this is a new one.”

“Radiation or nuclear materials would be the most obvious but the least likely scenario”

Talking of Scenario, part 1: As a citizen there is not much you can take into your own hands and do about a radiation and nuclear threat. Distance is your only protection, and not knowing where it is, makes that irrelevant. I think you are providing information that is only going to agitate people. Several quotes that lead to this same belief.

Talking nationally, “you wonder if they are just putting everything out there as they come by just to fill you with a lot of information to cover their butts in case something happens.”

“If I was John Q. Public I would be scratching my head going what is “shelter-in-place”.” Several quotes to the same.

Mental aspects of “waiting” for something to happen (pg. 17)

“If a panic starts, chances are it is going to be caused by it starting at the top.”

Media/communication

“I think one thing that has happened with the war, is that people have got use to the idea that a three star general doesn’t get up there and hold a press conference, most of the time.”

“that this is fact based (pointing to scenario, part III), this is conjecture based (part II), and one is panic.”

“Once we assess the situation and understand exactly what part of our resources it is going to take, then assure that everybody else does, because that is just as much a positive influence on the community as a, you know, you call the police and you get the police, you call the fire department and you get the fire department. You know, it is going to happen. All you have to do is pick up that telephone.”

“where I’m going to get a dosimeter, where I’m going to get potassium iodide although I’m too old for it, where I am going to get equipment to dispose of my clothing when I finish working in a contaminated area. If those things have been addressed in the police community, I can’t tell you that I know about them and I am pretty high up the chain.”

SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT

Summary Report

Population: Professional, Firefighters

Agent: Radiation

Region: Oklahoma

Focus group date: 28 Aug 03

Prepared by the Department of Health Promotion Sciences

University of Oklahoma College of Public Health

Report date: August 29, 2003

GROUP CHARACTERISTICS

Characteristic	Category	N (%)	Mean/SD
Age		10 (100.0)	46.1/5.07
	Missing	0	
Sex	Male	10 (100.0)	
	Female	0	
	Missing	0	
Education	Less than high school	0	
	Some high school	0	
	High school diploma or GED	1 (10.0)	
	Some college	7 (70.0)	
	College degree	2 (20.0)	
	Graduate degree	0	
	Missing	0	
Ethnicity/race	African American/Black	0	
	American Indian/Alaska Native	0	
	Caucasian/White	10 (100.0)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Language in home	English	10 (100.0)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Marital status	Single	0	
	Married or living with partner	10 (100.0)	
	Divorced or separated	0	
	Widowed	0	
	Missing	0	
Children	Yes	10 (100.0)	
	No	0	
	Missing	0	
Employment	Yes	10 (100.0)	
	No	0	
	Missing	0	
Family income	Less than \$10,000	0	
	\$10,000-\$19,999	0	
	\$20,000-\$29,999	0	
	\$30,000-\$39,999	1 (10.0)	
	\$40,000-\$49,999	0	
	\$50,000-\$59,999	3 (30.0)	
	\$60,000-\$69,999	1 (10.0)	
	\$70,000-\$79,999	1 (10.0)	
	\$80,000-\$89,999	1 (10.0)	
	\$90,000-\$99,999	1 (10.0)	
	\$100,000 or more	2 (20.0)	
	Missing	0	

* = median

RESULTS OF ANALYSIS

NOTE: THIS IS PRELIMINARY INFORMATION TAKEN FROM NOTES SINCE TAPE TRANSCRIPTIONS ARE NOT YET AVAILABLE.

Executive summary of top concerns and topics of discussion

- Where, when, who, what is known, and what is the extent of damage.
- Coordination of the event since multiple responding agencies will be involved.
- How to protect themselves.
- How to protect their families.

Results of qualitative analysis, by conceptual domain:

Pre-event knowledge

What is participants' current awareness of the CAS, precautions, and different threats?

Not applicable to this focus group.

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- Professional duties are paramount.
- Seeking specific facts in order to take action.
- Go through check list of action in such conditions.
- Protection of their own family

What do participants want to know in the event of an emergency?

- Are there any preventive efforts to reduce worsening.
- Inquire about water supply.
- Where, when, who, what is known.
- What is the extent of damage.
- How coordination of the many responding agencies will be accomplished.
- Concerned about "self-responding" agencies: agencies that show up to help but create a surfeit of equipment/personnel with the outcome of impeding operations.
- Concern about protecting emergency personnel.
- Are the first responders prepared to cope with what they will meet.
- Ascertain if other problems are present in addition to the radiological one, such as gas leaks.

Where do participants seek information in the event of an emergency and why?

- FBI: because of its Federal connection.
- Possible subscription to "Infraguard" which is an FBI notification system regarding disasters.
- Perception of needing to "get familiar" with the FBI since it is perceived as the ultimate source for bioterrorism information.

What are participants' perceptions about government and preparedness?

- National Color Alert System is useless.
- FBI would be the central source of information.
- Question about whether the Homeland Security office would have information.

What are participants' perceptions about the role of the media?

- Fire chiefs and police need to give information to the public.
- Information should be factual but calming.

What are other participants' perceptions of interest?

- Need for "Incident Command" that is informed so that coordination of the scene is possible.
- Use of a "reverse 911" in which a phone alert system is used to send information to all telephones.

Materials pre-test response

How well do preliminary message materials address information needs?

- Not helpful to firefighters: too basic.

What are unmet information needs?

- No mention of inhalation danger.
- Firefighters will not expertise to determine the radiation levels.
- Potassium iodine will not be useful if dosing is not known.
- What to do with contaminated items after they've been bagged.

How do participants respond emotionally to preliminary message materials?

- Factually, without particular emotion.

How credible are the preliminary message materials?

- No commentary was elicited relating to credibility.

How successful are materials in fostering self-efficacy?

- No commentary was elicited relating to credibility.

What are participants' recommendations for improving the materials?

- Clarify the issues related to KI.

- Specifics about protecting themselves.
- Information regarding the safety of using respirators, since air packs will eventually be depleted of air.

What are other participants' recommendations for preparedness?

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Summary report of qualitative analysis of focus group

Population: Frontline Public Health
Agent: Nuclear

Region: Southeast
Focus group date: August 2, 2003

Prepared by the
School of Public Health, University of Alabama at Birmingham (UAB)

GROUP CHARACTERISTICS

Characteristic	Category	N (%)	Mean
Age	Missing		
Sex	Male	3	
	Female	3	
	Missing		
Education	Less than high school		
	Some high school		
	High school diploma or GED		
	Some college		
	College degree	6	
	Graduate degree		
Ethnicity/race	Missing		
	African American/Black	2	
	American Indian/Alaska Native		
	Caucasian/White	4	
	Other		
Language in home	Other (specified)		
	Missing		
	English	6	
	Other		
Marital status	Other (specified)		
	Missing		
	Single	1	
	Married or living with partner	5	
	Divorced or separated		
Children	Widowed		
	Missing		
	Yes	5	
Employment	No	1	
	Missing		
	Yes	6	
Family income	No		
	Missing		
	Less than \$10,000		
	\$10,000-\$19,999		
	\$20,000-\$29,999	2	
	\$30,000-\$39,999	4	
	\$40,000-\$49,999		
	\$50,000-\$59,999		
	\$60,000-\$69,999		
	\$70,000-\$79,999		
	\$80,000-\$89,999		
	\$90,000-\$99,999		
	\$100,000 or more		
	Missing		

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- ❖ Participants displayed concrete delineations in personal response and professional response. Responses suggest a higher priority for personal responsibilities as opposed to call of duty in the event of a threatened or actual nuclear explosion.
- ❖ Participants' responses indicate a general lack of connectedness to the role of responder in the event of a threatened or actual nuclear explosion.
- ❖ Participants exhibited higher levels of perceived susceptibility of danger with non-specific scenarios. As the scenario became more specific, perceived susceptibility of danger decreased.
- ❖ Many participants self-identified as members of the larger public in response to a threatened or actual nuclear explosion.
- ❖ Participants cited sources for information-seeking behaviors as media, professional superiors, military sources and governmental agencies.
- ❖ Participants responded positively to the content of pretest materials. Concerns were expressed relating to layout and the section on potassium iodide (KI). Additional concerns were expressed about the graphic demonstrating different types of radiation.

Results of qualitative analysis, by conceptual domain:

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- ❖ Participants had difficulty expressing quantifiable emotions, often intellectualizing responses into actions. These actions centered around what they would do when responding to a given scenario.
- ❖ Participants exhibited a wide-range of emotional responses. Emotions ranged from remaining calm to panic behavior.
- ❖ Many participants expressed emotional separation from their professional responsibilities, focusing on the well being of family and friends.
- ❖ Participants displayed avoidant behavior when self-identifying as "responders". Many saw their jobs as unaffected unless told otherwise.
- ❖ Emotional responses regarding participants' perceived susceptibility of danger from a threatened or actual nuclear explosion was scenario-specific.
 - Non-specific (Part I)- Participants' emotional responses included fear, skepticism, and apprehension. Emotions were due to the non-specific nature of the threat, and general lack of information about the threat.
 - Non-specific w/ limited information (Part II)- Participants' emotional responses included fear, panic, flight responses, and empathy for others. As the scenario moved the situation closer geographically, these themes emerged.
 - Specific w/ concrete information (Part III)- Participants' emotional responses included calm and relief as the scenario became more factual.

I would look for guidance from the radio, guidance from the news stations or any guidance from any public agencies as far as what the public should do, that would be the first thing I would do. I would be um concerned, but that concern would be based on the guidance or recommendations by some type of public agency

that would be just like with 9-11, I first heard about that on a radio station and there is a lot of comical reporting and I could not tell if this is real. You know is it a joke. Is it for real, and if it is for real kind of like #4, if we are going to be nuked, I am not sure where we would be safe. I guess I would stay close to the TV, close to the radio, close to some source I thought was reliable.

I would just remain objective. Look at the facts and not get caught up in the hysteria. Try to remain objective as possible. Look at facts, look at recommended procedures. Stay calm.

Well, thinking of 911, the patients kept coming in like normal. Maybe there was a little discussion about it. It was a normal day.

At this point, I'm a nurse, but at this point I don't know. I am not and don't see myself and haven't been told that I am, or have been prepared that I might be someone that might be used in the forefront. I work in public health and I am a nurse, but I have this feeling that if this happens and they go for like the way way way B- team, I am just like everybody else. I don't see myself in the frontline, but it could be different.

I haven't heard that I am involved and I don't want to be involved. I would be more concerned with staying at home and taking care of my family.

In my current capacity, I deal with air pollution. We make sure that industry maintains certain emission standards. So in my current capacity, I do not think that it would apply to me. But the emphasis of my job could be shifted.

Non-Specific Threat

I would be concerned and skeptical. There seems like there has been a lot of... I mean I would not believe it. I would be concerned, but I would also think what could we do if this really happened. I mean I don't know if we have shelters anymore for this kind of thing. I would probably just go about my day.

I feel scared. I mean is it a hoax? Is it for real? Scared because what do I do. I am not leaving my house, my children are not leaving my house, but where do we go? Is somebody going to come down our streets and give us instructions?

Non-Specific Threat w/ limited information

I feel terrified. Absolutely terrified for my family who isn't with me.

I feel frantic. I need my cell phone near me and charged. I would feel different depending on the time I learned the information. I mean it says that this is over lunch so it is different if I just heard it over my coffee. I find this similar to a tornado alert. This is not business as usual. I would be frantic. I am freaking out. I would want to account for the rest of my family.

I would want to get out of [City] get home and check on my family.

Specific Threat w/ concrete information

I feel a little better. There are more facts. I have a picture in my mind of what is and what isn't. When you don't know the facts, the less information you have, the less you know what to do.

I feel better as well after reading this. It doesn't seem that bad.

I feel much more at ease

What do participants want to know in the event of an emergency?

- ❖ Source of the threat
- ❖ What will happen in the future
- ❖ What to do
- ❖ Where to go
- ❖ Emergency response plans
- ❖ Specific roles

I would want to know what I could do to protect my family and myself. What measures should I take. Professionally, It would involve a shift in what I currently do. I would be shifted into some other field dealing with control or measuring radiation

I would want to know the # of people that were injured.

I would want to know who did it. Who is responsible? Was it an accident? It's a bad accident.

Still wondering what I should do. What actions should I take? How long this will last?

I would also want to know why someone did this. How many people are injured? I would want just want to know how many people were hurting.

Where do participants seek information in the event of an emergency and why?

- ❖ Participants identified several media sources as the primary target of their information-seeking behavior.
- ❖ These sources included:
 - Local news reports
 - National news reports
 - Radio programs
 - Ham radio
- ❖ Other sources included:
 - Professional supervisors
 - In-house WMD response plan teams
 - Interpersonal communication

Someone in my department

I would look for guidance from the military

I agree that the local news would be reliable at this point, but national would have more information. Local news would have quicker access. The pure investigational power they have is tremendous. They may also have seen similar situations in different countries that could be applied here.

National. Most likely. They can provide a broader perspective of what to do or what happened. I am not sure, but I would go to CNN or some national program. I would not be against looking at local, but resources could be limited, but that is just an assumption

Assuming that we do have electricity, TV

We also have to think that television could be knocked out if we are dealing with a nuclear attack. Ham radio might be your best source or only source.

What are participants' perceptions about message dissemination?

- ❖ Participants expressed the desire for some entity to step up and take control of the situation.
- ❖ Participants preferred single source contact for information dissemination in the event of a nuclear incident.
- ❖ Participants identified qualities that are desired in the messenger of information. These characteristics included strength, organization, trustworthy, and familiarity.

I would hope there was somebody a lot less frantic than I am. I would want somebody to direct things

The Governor. What I think of him at this point is not important. Maybe Weather Man is saying, now that the wind is blowing that way, all you guys at the health department better stay put. I think the important thing is hearing it from one person, the same person I have been hearing everything else from

What are participants' perceptions about agency preparedness?

- ❖ Participants expressed concerns that specific agencies were not prepared for a nuclear emergency.
- ❖ Some participants indicated limited knowledge of possible response plans of their agencies of affiliation.

The health department is extremely unprepared for a disaster like this.

Right now, the lab has no plans, and is not directly involved. We are more involved if there is a biological attack.

Media would be my primary source of information. In the absence of media, I would find my health officer or the WMD team and find out a plan.

What are other participants' perceptions of interest?

- ❖ Participants perceived that no matter how dire the situation, information would be disseminated to on response.
- ❖ Participants, while displaying detachment from their public health roles as responders, still showed tremendous concern for the "public".

There are people in the eye of the storm in Gulfport, MS with waves crashing on their heads. Oh no, someone will be there to get the story. They might be in a super bunker, protective gear. There are all these little cells in the planet of the apes. There would be somebody

I would want to know what I could do to protect my family and myself

I would want just want to know how many people were hurting.

Materials pre-test response

How well do preliminary message materials address information needs?

- ❖ Participants saw the fact sheet as positive.
- ❖ Participants feel the fact sheets provide good information on response and self-protection.

I thought it was pretty informative. I certainly want to do these protective measures over here. It tells you some things you can do.

I think it is great. It readily indicates hazardous and radioactive. It has the icons for radiation.

I think this is pretty good information. Lots of do's and don't's. Especially with the KI. If you are over 40 you don't need that.

Not only yourself, but the people that are around you. You know at the lab we have an endless supply of white lab coats, so we could pass those out to people who had been exposed or had potential exposure.

What are unmet information needs?

- ❖ Participants felt the section on Potassium Iodide (KI) did not contain enough information.
- ❖ Unmet needs for the KI section include:
 - Why should someone take KI.
 - Contraindications
 - Side effects

You would have to be very careful especially with this KI administration. If you are responsible for issuing that out, you would certainly have to have some sort of medical history of other people.

it says should I take KI. It is not clearly spelled out why I should take KI. I don't see the answer in black and white. Does it help you, blah, blah, blah. The CDC recommends this. I don't see what I would look for first as a nurse telling me why I should take this. Well, why should I take this? I am somebody that doesn't even know what KI is looking at this.

There needs to be a list of contraindications would be helpful to people.

How do participants respond emotionally to preliminary message materials?

- ❖ Some participants reported a feeling of confusion from the fact sheet.

When I first looked at this was distracting. As I looked at it, I did not know where to start reading.

How believable are the preliminary message materials?

- ❖ Participants commented that materials seemed believable.

What are participants' recommendations for improving the materials?

- ❖ Participants desired a reorganization of materials of sections.
- ❖ Participants expressed the need for materials to be available in Spanish
- ❖ Participants wanted to see a bulleted list of simple directions.

❖ Participants would explain the graphic more fully.

the emphasis should be on how can I protect myself first! That is the most important thing that should be emphasized in this document. Bold that section. The effects of radiation then move KI section under how do I protect myself and others from radiation.

First, how do I protect myself, then KI, wear a badge, what do you do with your equipment. It makes a lot more sense.

It is pretty, it is educational, but should only contain information on harmful aspects. We are talking about a nuclear attack here.

The sheet should be constructed to follow the way the eye moves. Educational materials should be called helpful terms, useful information, useful terms.

I have a master's degree, and it took me 3 minutes to figure out how to read it. My eyes did not know where to go first. Anything that takes that long usually ends up in the trash.

When I first picked it up I thought how neat. Two colors, I look and say oh cool, it is in Spanish too. But where's the Spanish? A lot of things that you read or that we have now are English and Spanish. I didn't know what I should be reading first and I picked it up and said maybe there is Spanish some place.

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Summary report of qualitative analysis of focus group

Population: Professional, Emergency Room Staff
Agent: Radiation

Region: Oklahoma
Focus group date: August 28, 2003

Prepared by the Southwest Center for Public Health Messaging
University of Oklahoma College of Public Health
Report date: October 31, 2003

GROUP CHARACTERISTICS

Characteristic	Category	N (%)	Mean/SD
Age	Missing	7 (100.0) 0	44.71/12.61
Sex	Male	3 (42.9)	
	Female	4 (57.1)	
	Missing	0	
Education	Less than high school	0	
	Some high school	0	
	High school diploma or GED	0	
	Some college	1 (14.3)	
	College degree	4 (57.1)	
	Graduate degree	2 (28.6)	
	Missing	0	
Ethnicity/race	African American/Black	0	
	American Indian/Alaska Native	0	
	Caucasian/White	7 (100.0)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Language in home	English	7 (100.0)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Marital status	Single	0	
	Married or living with partner	7 (100.0)	
	Divorced or separated	0	
	Widowed	0	
	Missing	0	
Children	Yes	5 (71.4)	
	No	2 (28.6)	
	Missing	0	
Employment	Yes	7 (100.0)	
	No	0	
	Missing	0	
Family income	Less than \$10,000	0	
	\$10,000-\$19,999	0	
	\$20,000-\$29,999	0	
	\$30,000-\$39,999	0	
	\$40,000-\$49,999	0	
	\$50,000-\$59,999	1 (14.3)	
	\$60,000-\$69,999	2 (28.6)	
	\$70,000-\$79,999	0	
	\$80,000-\$89,999	1 (14.3)	
	\$90,000-\$99,999	1 (14.3)	
	\$100,000 or more	2 (28.6)	
	Missing	0	

* = median

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Concerned about hospital resources being overwhelmed.
- Concerned that recommended actions in the fact sheets are not efficacious.
- Concerned about self protection while conducting their clinical tasks.

Results of qualitative analysis, by conceptual domain:

Pre-event knowledge

What is participants' current awareness of the CAS, precautions, and different threats?

Not applicable to this focus group guide.

Response to hypothetical attack

How do participants respond emotionally to a suspected or actual emergency?

- Fear
- Worry about having proper and sufficient training and equipment to provide needed care.
- Concern about traffic problems with many people expected to leave the area.
- Non-clinical staff may leave the hospital.
- Delay of additional personnel arriving at the hospital to assist.
- Quotes: (p. 1)...I hope they have enough staffing in the emergency room....I would be panicked wondering if we had the equipment, the proper equipment at the emergency department to take care of radiological or nuclear contamination.
(p. 2...) "I would be very worried because although we have drilled on this, it has been many, many, many, many, many years ago, and I would be concerned about how prepared we are to take this on as a healthcare facility."
(p. 3... And, I would also want to know very quickly what kind of support we could expect from outside agencies."
(p. 29...There'll be people that slide out the side doors (i.e., staff who abandon the work site). I don't think it would be a mass panic, but I think there'll be people that will leave, I just bet you.

What do participants want to know in the event of an emergency?

- What kind of support would they get from other agencies: local, state, federal, FEMA, National Guard?
- Has any contact leading to help been initiated?
- What is the specific type of radiological release: medical, industrial, dirty bomb, large scale bomb?
- Weather reports to learn of wind direction.
- What kind of training does our staff need?
- Do we have sufficient medications and burn treatment supplies including pain management drugs.
- How to protect the hospital staff in the ER.
- How will we know if people at the ER door have gone through the decontamination procedure.

- Quotes: (p. 7”...I want to know what is the radioactive material, because even with a dirty bomb there is a difference in dealing with something with a six-hour half-life and something with a half-life that runs to months.”
(p. 12”...I would want to know how we are going to keep our staff and our hospital from becoming contaminated, which I know we have a procedure set up for that, but where do we go if people that come in through the door contaminate the hospital.”

Where do participants seek information in the event of an emergency and why?

One reference was made to a manual on radiation contamination downloaded from the web and to the uncertainty of its exact location.

- Quote: (p. 24 “...We have a manual that was downloaded from... I don’t remember if it’s from the civil defense or where it was, but it addresses the responses to several radionuclides.”

What are participants’ perceptions about government and preparedness?

- Government will withhold information.
- There are many procedures required to enlist the help of the National Guard.

What are participants’ perceptions about the role of the media?

Note: answers to this question are not present in the notes.

What are other participants’ perceptions of interest?

- Want the appropriate and sufficient equipment to meet the needs.
- Protective clothing for them.
- Not enough KI for use in the community since it is home to a large student university population with many younger people.
- The hospital procedures will be radically revised during an event.
- Anticipation of evolving type of conditions seen at the hospital in concert with the blast, burn, and later radiation sickness symptoms.
- Quotes: (p. 33 “...I think this hospital becomes the MASH unit;...It’s not going to be standard operating procedure at all; ...we’re not worried as much about surface contamination any more, we’re worried about radiation, and the people that have been injured by radiation , for the most part, have already been injured by it, instantaneously with the blast. So, right now our concern is immediately treating and taking care of traumatic injuries. Later on we may have to deal with radiation effects..

Materials pre-test response

How well do preliminary message materials address information needs?

- Information needs not well addressed.

What are unmet information needs?

- People need to be told to stay off the phone.
- Knowledge that those who have been irradiated by the blast are not themselves radioactive.
- What is the best protective clothing for the staff?

- Much more specific information is needed.
- Quote: (p. 37 "...I do think in that section, it ought to say wear protective clothing if that is what they're recommending, and change the protective clothing every hour or whatever is appropriate...")

How do participants respond emotionally to preliminary message materials?

- Generally dislike the material.

How credible are the preliminary message materials?

- Sense that the actions recommended are not efficacious.
- Beneficial to the public because it gives them something to do.
- This information will not stop public panic.
- Quote: (p. 43 "...for no other reason, general public information like this gives them something to do, and it does make them, if nothing else, they feel better. They feel safer, whether or not in actuality it enhances that.")

How successful are materials in fostering self-efficacy?

- The participants suggest that the actions recommended are not efficacious.

What are other participants' recommendations for preparedness?

(Summarize participants' other recommendations.)

Appendix F

Overall Project Demographics

DEMOGRAPHIC DATA FOR 54 FOCUS GROUPS ¹ (N=520)				
Characteristic	Category	N	(%)	Mean/SD
Age		486	93%	43.66/16.14
	Missing	34	7%	
Sex	Male	222	43%	
	Female	297	57%	
	Missing	1	<1%	
Education	Less than high school	42	8%	
	Some high school	39	8%	
	High school diploma or GED	85	16%	
	Some college	132	25%	
	College degree	104	20%	
	Graduate degree	59	11%	
	Missing	59	11%	
Ethnicity/race	African American/Black	107	21%	
	American Indian/Alaska Native	45	9%	
	Asian/Pacific Islander	64	12%	
	Caucasian/White	144	28%	
	Latino/Hispanic	133	26%	
	Other	13	2%	
	Missing	14	3%	
Language in home	English	361	69%	
	Spanish	90	17%	
	Bilingual/English & Other	31	6&	
	Other	35	7%	
	Missing	3	1%	
Marital status	Single	133	26%	
	Married or living with partner	242	46%	
	Divorced or separated	56	11%	
	Widowed	34	6%	
	Missing	55	11%	
Children	Yes	338	65%	
	No	151	29%	
	Missing	31	6%	
Employment	Yes	311	60%	
	No	174	33%	
	Missing	35	7%	
Family income	Less than \$10,000	75	14%	
	\$10,000-\$19,999	87	17%	
	\$20,000-\$29,999	58	11%	
	\$30,000-\$39,999	40	8%	
	\$40,000-\$49,999	32	6%	
	\$50,000-\$59,999	29	6%	
	\$60,000-\$69,999	28	5%	
	\$70,000-\$79,999	11	2%	
	\$80,000-\$89,999	10	2%	
	\$90,000-\$99,999	13	2%	
	\$100,000 or more	32	6%	
	Missing	105	20%	
¹ The rural Hispanic botulism group is not included in these numbers as the focus group transcript was not available for inclusion in the analysis.				

Appendix G

Coding Guides

CODE TERMS
FOR
PRE-EVENT MESSAGE ANALYSIS

Public Groups

5 August 2003

DOMAIN: PRE-EVENT KNOWLEDGE

PARENT CODES

- Color Alert System CODE: CAS

All references to the Color Alert System

Child Codes:

Has knowledge of the Color Alert System:

CODE: CAS.K

Does not have knowledge of the Color Alert System:

CODE: CAS.NK

PARENT CODES

- Protection of self from attack

CODE: PSA

Child Codes:

Shelter in place CODE: PSA.SIP

Get information CODE: PSA.GI

Gas mask CODE: PSA.GM

Duct Tape CODE: PSA.DT

Other CODE: PSA.O

PARENT CODES

- Meanings of BT categories CODE: MBT

Child Codes:

Meanings of chemical attacks

CODE: MBT.C

Correct information

CODE: MBT.CR

Incorrect information

CODE: MBT.CW

Meanings of nuclear attacks

CODE: MBT.N

Correct information

CODE: MBT. NR

Incorrect information

CODE: MBT. NW

Meanings of biological attacks

CODE: MBT.B

Correct information

CODE: MBT.BR

Incorrect information

CODE: MBT.BW

DOMAIN: EMOTIONAL RESPONSE

PARENT CODES

Non-Specific Agent (Scenario, Part 1)

CODE: ER.NSA

Symptoms (Scenario, Part 2)

CODE: ER.SYM

Specific Agent, Symptoms, and Response (Scenario, Part 3)

CODE: ER.SASR

Child Codes:

What do participants feel?

CODE: ER.FL

What do participants not feel?

CODE: ER.NFL

DOMAIN: KNOWLEDGE

PARENT CODES

Non-Specific Agent (Scenario, Part 1)

CODE: K.NSA

Symptoms (Scenario, Part 2)

CODE: K.SYM

Agent, Symptoms, and Response (Scenario, Part 3) CODE: K.SASR

Child Codes:

What do participants believe?

CODE: K.BEL

What do participants know?

CODE: K.KNW

DOMAIN: ACTIONS

PARENT CODES

Non-specific Agent (Scenario, Part 1)

CODE: A.NSA

Symptoms (Scenario, Part 2)

CODE: A.SYM

Agent, Symptoms, and Response (Scenario, Part 3) CODE: A.ASR

Child Codes:

What would participants do?

CODE: A.DO

What would participants not do?

CODE: A.NDO

DOMAIN: INFORMATION SEEKING

PARENT CODES

Non-specific Agent (Scenario, Part 1)

CODE: IS.NSA

Symptoms (Scenario, Part 2)

CODE: IS.SYM

Agent, Symptoms, and Response (Scenario, Part 3) CODE: IS.ASR

Child Codes:

What information do respondents want to know?

CODE: IS.WHA

Where would they go to get more information?

CODE: IS.WHR

Where would they prefer to get their information?

CODE: IS.PFR

DOMAIN: RELEASE OF INFORMATION
(Scenario, Part 4)

PARENT CODE

Informativeness (Comprehension) of materials CODE: RI.COM

Child Codes:

Knowledge learned

CODE: RI.KL

Unanswered questions

CODE: RI.UQ

Additional information needed

CODE: RI.AIN

What are the participants' abilities to make an informed decision about an (plague, botulism, chemical, nuclear) event based on print materials? CODE:

RI.ID

PARENT CODE

Emotional Response CODE: RI.ER

Child Codes:

How did the materials make the participants feel?

CODE: RI.ER.MFL

How could the materials be changed to make participants feel less/more emotions?

CODE: RI.ER.FLM

PARENT CODE

Credibility (Believability) CODE: RI.CR

Child Codes:

What was the credibility of the print materials?
CODE: RI.CR.PM

How can credibility be increased? CODE: RI.CR.ICR

Was there anything participants feel that was not being disclosed?
CODE: RI.CR.DC

PARENT CODE

Self-efficacy CODE: RI.SE

Child Codes:

Participants' confidence in materials CODE: RI.SE.CON

Understanding of the risks of a/an (plague, botulism, chemical, nuclear) event
CODE: RI.SE.R

Understanding of what to do in a/an (plague, botulism, chemical, nuclear) event
CODE: RI.SE.WTD

Willingness to follow recommended actions
CODE: RI.SE.FOL

Knowledge of where to turn for information
CODE: RI.SE.WHR

DOMAIN: RECOMMENDATIONS FOR IMPROVEMENT

PARENT CODES

Print Materials CODE: RCI.PM

Other Materials CODE: RCI.OM

DOMAIN: RESPONSE TO GOVERNMENT

PARENT CODES

Government agencies CODE: RG.GA

Trust/Credibility in government CODE: RG.TC

Government Responsiveness CODE: RG.GR

DOMAIN: PERCEPTIONS OF EMERGENCY RESPONSE SYSTEMS

PARENT CODES

Role of first responders CODE: PER.RFP

Role of health and human service providers CODE: PER.RHH

Role of media CODE: PER.M

CODE TERMS

FOR

PRE-EVENT MESSAGE ANALYSIS

Professional Groups

11 August 03

DOMAIN: PRE-EVENT KNOWLEDGE

PARENT CODE

- Biological Weapons CODE: BW

CHILD CODES

- Xxxxx (Responses) CODE: BW.

PARENT CODE

- Understanding CODE: U

CHILD CODES

- Has scientific understanding CODE: USY
- Does not have scientific understanding CODE: USN

PARENT CODE

- Public Information Needs CODE: PUIN

CHILD CODES

- Xxxxx (Needs)

DOMAIN: INFORMATION NEEDS

PARENT CODE

- Professional Knowledge Needs CODE: PRKN

CHILD CODES

- Xxxxx (Needs)

PARENT CODE

- Public Knowledge Needs CODE: PUKN

CHILD CODES

- Xxxxx (Needs) CODE: PUKN.

PARENT CODE

- Diverse Population Information Needs CODE: DPKN

CHILD CODES

- Xxxxx (Needs) CODE: DPKN

PARENT CODE

- Response Information CODE: RIN

CHILD CODES

- xxxx (Needs) CODE: RIN.

DOMAIN: INFORMATION SEEKING BEHAVIOR

PARENT CODE

- Professional Information CODE: PRI

CHILD CODES

- Where CODE: PRI.W

PARENT CODE

- Public Information CODE: PI

CHILD CODES

- Where CODE: PI.W

DOMAIN: INFORMATION DISSEMINATION

PARENT CODE

- Responsibility CODE: RESP

CHILD CODES

- xxxx (Agencies) CODE: RESP.AG

PARENT CODE

- Plan for Information Dissemination CODE: PID

CHILD CODES

- Actions CODE: PID.ACT

PARENT CODE

- Message Supplementation CODE: MS

CHILD CODES

- Xxxxx CODE: MS.

PARENT CODE

- Additional Needs

CODE: AN

CHILD CODES

- Xxxxx

CODE: AN.

DOMAIN: COMPREHENSION OF MATERIALS

PARENT CODE

- Main Points

CODE: MP

CHILD CODES

- Xxxxx

CODE: MP.

PARENT CODE

- Questions

CODE: Q

CHILD CODES

- Xxxxx

CODE: Q.

PARENT CODE

- Message Clarity

CODE: MC

CHILD CODES

- Xxxxx (Specific parts)

CODE: MC.

PARENT CODE

- Actions

CODE: ACT

CHILD CODES

- Xxxxx (Specific actions)

CODE: ACT.

PARENT CODE

- Information Needs

CODE: IN

CHILD CODES

- Xxxxx (Information needed) CODE: IN.

DOMAIN: EMOTIONAL RESPONSE

PARENT CODE

- Response to Attack

CODE: RTA

CHILD CODES

- Xxxxx

CODE: RTA.

PARENT CODE

- Response to Fact Sheet

CODE: RFS

CHILD CODES

- Xxxxx

CODE: RFS.

PARENT CODE

- Reasons for Responses

CODE: RR

CHILD CODES

- Xxxxx

CODE: RR.

PARENT CODE

- Recommended Changes

CODE: RC

CHILD CODES

- Xxxxx

CODE: RC.

PARENT CODE

- Emotions of Public

CODE: EP

CHILD CODES

- Increased security
- Increased fear
- Graphics

CODE: EP.IS

CODE: EP.IF

CODE: EP.G

PARENT CODE

- Message Dissemination

CODE: MD

CHILD CODES

- TV
- Radio
- Xxxxx

CODE: MD.TV

CODE: MD.R

CODE: MD.

DOMAIN: BELIEVABILITY

PARENT CODE

- Credibility

CODE: CRD

CHILD CODES

- Believable
- Not believable

CODE: CRD.B

CODE: CRD.NB

PARENT CODE

- Increasing Believability

CODE: IB

CHILD CODES

- Xxxxx (Recommendations) CODE: IB.

PARENT CODE

- Use of Information CODE: UI

CHILD CODES

- How CODE: UI.HOW
- Where CODE: UI.WH
- Xxxxx CODE: UI.

PARENT CODE

- Usefulness of Information CODE: UFI

CHILD CODES

- Realistic advice CODE: UFI.RA
- Unrealistic advice CODE: UFI.URA

PARENT CODE

- Public Credibility CODE: PC

CHILD CODES

- Believable CODE: PC.B
- Not believable CODE: PC.NB

DOMAIN: SELF-EFFICACY, RESPONSE EFFICACY AND BEHAVIORAL INTENT

PARENT CODE

- Effectiveness of Actions CODE: EA

CHILD CODES

- Effective CODE: EA.E
- Ineffective CODE: EA.IE
- Why CODE: EA.W
- Why not CODE: EA.WN

PARENT CODE

- Public Efficacy CODE: PE

CHILD CODES

- Yes CODE: PE.Y
- No CODE: PE.N

PARENT CODE

- Use of Message

CODE: UM

CHILD CODE

- Yes
- No

CODE: UM.Y

CODE: UM.N

PARENT CODE

- Incorporation of Message

CODE: IM

CHILD CODES

- Xxxxx (How)

CODE: IM.

DOMAIN: RECOMMENDATIONS FOR IMPROVEMENT

PARENT CODES

- Print Materials
- Other Materials

CODE: PRM

CODE: OM